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YACHT OUTFITTING IN NEW YORK

The ship yards of New York are quite busy in yacht outfitting and repairing.

F. B. Hains is putting his two small steam yachts, Claymore and Lucile, into commission at Manning's dock, Erie Basin. Claymore is 80 ft. over all, and Lucile 90 ft. The steam yacht Trophy, lately purchased by Ernestus Gulick, will be put into commission at once. Lagonda, the 120-ton steam yacht, owned by Edward Browning of Philadelphia, has been put in shape for the summer, and will leave the basin in a few days.

Frank Tilford's steam yacht Norman will be ready in two weeks. Norman was formerly Oneonta, and is a steel vessel 163 ft. over all, built at Chester, Pa., in 1895. Mayita II., the twin screw steam yacht belonging to Edward C. Schaefer and Frederick Uhlmann, is also nearly ready to go into commission, as is John N. Robins' steam yacht Seminole. The steam yacht Nylked, owned by B. F. DeKlyn of Philadelphia, went into commission last week. Nylked gets her somewhat peculiar name from the simple device of spelling her owner's backwards. Among the few large steam yachts which have received orders to get ready for the summer are Noma and Virginia, now lying at the Twenty-third street dock, Brooklyn. Noma is a splendid twin-screw steel vessel built only a couple of years ago at Port Richmond, Staten Island. She has a gross tonnage of 763, and is 263 ft. over all. William B. Leeds, who owns her, has not announced any particular plans which he has in connection with the yacht for the summer. Virginia belongs to Isaac Stern. She is somewhat smaller, having a tonnage of 441, but is graceful and well appointed, and, like Noma, of steel construction throughout. H. Clay Pierce's steam yacht Yacona will also go into commission in about a month. Yacona is a foreign built vessel, constructed at Kinghorn, Scotland, in 1898. The steam yacht Kismet, the property of Francis S. Smithers, is in dry dock in Brooklyn for painting and repairs to her screw. J. F. O'Shaughnessy has arranged to sell the auxiliary schooner Calypso, formerly Her Royal Highness.

The union of the North American Steamship lines has decided to establish a regular steamship service between Scandinavian ports and Boston. Eight steamers will be put in this service, which will be furnished by the Holland-America line, the Red Star line and the North German Lloyd. This united action on the part of certain steamship companies is due to the fact that the Cunard line has withdrawn from its old agreement and adopted measures to materially sharpen the freight and passenger service competition.

BIDS FOR SUCTION DREDGE.

Capt. J. C. Sanford, government engineer with headquarters at Philadelphia, opened bids last week for constructing a suction dredge for improving the Delaware river. Following were the bidders:

Name and address of bidder.	Dredge, exclusive of steam arrangement for operating the dumping gates.	Steam arrangement for operating the dumping gates.	Place of Delivery.	Time.
	Price.	Price.		
Wm. Cramp & Sons' Ship & Engine Building Co., Philadelphia, Pa.	$446,000.00	$6,000.00	Philadelphia, Pa.	14 months
New York Shipbuilding Co., Camden, N. J.	389,000.00	7,600.00	Camden, N. J	" "
Maryland Steel Co. of Baltimore County, Sparrows Point, Md.	353,000 00	5 400.00	Sparrows Point, Md.	" "
Fore River Ship & Engine Co, Quincy, Mass.	440,000.00	5 855 00	Quincy, Mass.	" "

The Dominion government is in the market for an ice crusher for use in the St. Lawrence river. Previously the sum of $300,000 had been placed in the estimates for building an ice crusher. The general plan is for a steamer 200 ft. long, 43 ft. beam and 18 ft. deep, having specially constructed machinery for working during the winter and engaging in the lighthouse and buoy work in the summer. The Montreal harbor commissioners are of opinion that navigation could be kept open a fortnight later in the fall and probably opened a fortnight earlier in the spring if an ice crusher were in service. The great lakes is the home of the ice breaker and the ship builders of the great lakes are perfectly competent to construct this craft but it is reported that Armstrong, Whitworth & Co. are likely to get the contract.

The Greenport Basin & Construction Co., Greenport, L. I., is about to launch one of the two wooden dredges which it is building for the United States government. These dredges are among the largest wooden vessels ever built and are intended for service on the St. Johns river, Fla. One is to be named the Caucus and the other the St. Johns. They are 200 ft. over all, 183 ft. on the water line, 40 ft. beam and 14 ft. deep. The St. Johns river is now navigable only for vessels of light draught, but it is the intention of the government to materially increase the depth.

CUNARD LINE'S FIGHT WITH GERMANY.

Lord Inverclyde Issues a Statement Concerning Its Attitude Towards Hungarian Immigrants—Growth of White Star Line.

Liverpool, May 16.—Lord Inverclyde, the chairman of the Cunard Steamship Co., has sent the following communication to the press:

There has been considerable comment recently in Continental and United States newspapers on a contract made by the Cunard company with the Hungarian government, which includes, among other things, the transportation of Hungarian passengers from the Hungarian port of Fiume to New York at a fixed rate per head. As the contract has been somewhat misinterpreted, I think it desirable to give a short account of the conditions under which continental emigration to the United States has been conducted, so that the position of the Cunard company may be more clearly understood. The bitterest opponents of this agreement have been the North German-Lloyd and the Hamburg-American Packet Co., some of whose attacks upon it can only be justified by the maxim that everything is fair in commerce as in war. The reason of their opposition no doubt is that they have hitherto substantially monopolized the whole of the emigration from Russia and the northern provinces of Austria and Hungary and they are reluctant to give up any part of it. They complain that it is an altogether unheard of thing that a government should direct its emigration by one particular route, or by one particular company, forgetful that they had endeavored to negotiate a similar contract with the Hungarian government, but on more exacting terms, forgetful also that they themselves, apparently with the assistance of their government, had established a procedure by which the whole of the emigration from the countries and districts above mentioned was being practically directed to their ships, thus constituting a monopoly of the most serious kind, a monopoly not of German emigrants, over whom the German government might naturally claim control, but of emigrants from other countries, who were obliged to pass through Germany on their way to the western seaboard of Europe, from which to start for the United States, etc. The method adopted was as follows:

The two companies in question were permitted by the German government to establish control stations on the northeastern and eastern frontiers of Germany by connection with the various railway lines by which emigrants from the northeast and east of Europe to the United States and Canada cross Germany on their way to their ports of embarkation on the continent and in Great Britain. The object of these control stations was, it is said, to examine all emigrants passing through Germany to make sure—

1. That they were not suffering from infectious diseases.
2. That in other respects they were entitled to enter the countries to which they were bound.

These stations, beginning on the borders of the Baltic sea, control every line of railway passing into Prussia. At these control stations all emigrants from Russia, Austria, and Hungary are examined, and, if necessary, disinfected before they are allowed to pass the frontier, and each must have a certificate of such examination before he can continue his journey. The practice of the German lines is, however, to refuse to disinfect the passenger or to give such a certificate unless the passenger has booked by their own or one of their allied lines. The consequence is that passengers for lines not allied with the German lines are stopped at the frontier and not allowed to proceed on their journey. If they have not sufficient money to rebook by the German lines they are compelled to return home.

The control stations have been in existence for some time, and to escape them passengers from Russia and Austria-Hungary who held tickets for lines not in alliance with the two German companies traveled, if the location of the district they started from would so permit—even though the route might be a devious one—across Saxony by the railway which crosses the Saxon boundary at Bodenbach and proceed by way of Leipzig. This was a more expensive route in most cases than the route through Prussia, but was the only way out of the difficulty. In November last, however, the Saxon government itself established an examination station at Bodenbach, subsequently transferred to Leipzig, by which no foreign emigrant for any line other than the Hamburg-American and Norddeutscher-Lloyd is permitted to pass through Saxony, unless he has in his possession £20 for each member of his family over ten years of age and £5 for each child under ten years. Few emigrants possess so large a stock of money, and this rule is therefore a practical prohibition against passengers by all lines except the German lines, although it is relaxed, I understand, in favor of allied lines, for whom the German lines become answerable. Owing to the existence of these restrictions at the Prussian and Saxon boundaries, the emigration business of the Cunard company is very seriously interfered with. Its passengers have been stopped at the control stations and its remonstrances have been ignored. This treatment is the more unreasonable, since, in conformity with German law, the company some years ago was licensed to establish an agency at Hamburg for booking emigrants in Germany, and thereupon made a deposit of £5,000 with the German government as a guarantee for the satisfactory conduct of the business. This deposit still remains in the hands of the state debt department, Hamburg, and would be available in case of any emigrants for the Cunard company becoming a charge upon the German empire. Seeing the freedom with which the steamers of the two German companies in question are allowed to come to British ports and take British passengers, although they do not conform to the British board of trade regulations, I venture to think that the stopping of Russian and Austrian passengers intended for British lines is indefensible and contrary to international usage. I should also add that this arbitrary action was developed and completed some time before the Cunard company made its contract with the Hungarian government for the transport of Hungarian emigration.

Here follows copy of a declaration made by Josef Garczynski of Krakau, Galicia, and signed in the presence of witnesses and interpreters. This Cunard passenger had been twice stopped at the control stations and sent back home, but he with singular determination persisted in his efforts to break through the cordon of the German lines, and at length succeeded in doing so. Lord Inverclyde adds that there have been several other instances of a similar kind.

A profusely-illustrated little volume has been issued by the White Star Line dealing with the magnificent fleet controlled by this famous concern. In looking back but a few years one cannot but marvel at the enormous progress made both in the development of new services and of the fleet, undoubtedly the finest in the world, now controlled by this undertaking and founded by one whose name will ever be honored in shipping circles on this side and even farther afield, namely, the late Mr. Thomas H. Ismay, father of the present president of the International Mercantile Marine Co. It is but four years ago that Mr. J. Bruce Ismay assumed control of the White Star Line on the death of his father, and during his management it is worth noting the important additions that have been made to the fleet. First of all was the Oceanic of 17,274 tons, which stands in the very front rank of all North Atlantic liners. Then followed the Afric, Medic, Persic, Runic and Suevic, five twin screw steamers of 12,500 tons each for the Australian service; the Athenic, Corinthic and Ionic, each of 12,000 tons for the New Zealand trade; and later the Celtic, 21,000 tons; Cedric, 21,000 tons; Arabic, 15,800 tons; and Baltic (nearly completed) 24,000 tons. Besides these are the vessels taken over for the new Boston service from the Dominion Line,

namely, Republic, 15,378 tons; Cretic, 13,507 tons; Canopic, 12,096 tons; and Romanic, 11,394 tons, making a total of 17 vessels, all fitted with twin screws and having a total tonnage of 249,037. But to return to the pamphlet under notice. It is pointed out at the outset that the company owns thirty-one steamers aggregating well over 350,000, constituting one of the largest shipping organizations in the world. Reference is also made to the Baltic, Celtic and Cedric, before mentioned, which are the three largest steamers in the world, and it is further stated that the Baltic, which was launched in November last, will sail on her maiden trip to New York on June 29. She will have accommodation for over 3,000 passengers and is designed on similar lines to the Celtic and Cedric. A capital description is given of the Queen of the Atlantic, the Oceanic, with photographs of the interior arrangements of the ship. Special chapters are devoted to the second and third class accommodation respectively, and these markedly indicate the wonderful progress that has been made in recent years in interior fittings in these classes. A feature in regard to the illustrations is that several are arranged like canvases on easels embellished with a white star, and three especially interesting views are those of the Baltic "on the stocks," "leaving the ways," and "launched." Intending passengers will find much pleasure in perusing the pamphlet, which will be shortly issued to the public.

According to German advices the Hamburg-American Line is not going to be outdone by the White Star Line in possessing the largest vessel afloat, for it is said that they have commissioned the Vulcan Shipbuilding yard at Stettin to build a twin screw passenger steamer which will surpass in size any ship hitherto constructed. The new vessel is to be 710 ft. long, 75 ft. wide and 54 ft. deep. The displacement will amount to 34,920 tons and will register 25,000 tons gross. Accommodation will be provided for 1,200 cabin passengers and 2,388 steerage passengers, and the vessel will be capable of attaining a speed of 17 knots per hour. The official dimensions of the new White Star liner Baltic, which holds the record at present, is: Length 725 ft. 9 in., 75 ft. broad, 49 ft. deep, gross tonnage 24,000 tons, capacity for cargo 28,000 tons, displacement at load draught, 40,000, and passenger accommodation 3,000. It will be noted that the new German boat is intended to be 5 ft. deeper and have a gross tonnage of 1,000 tons over the Baltic.

In consequence of the frequent reports of ice floes and bergs in the Atlantic in unusual quantities, an important decision has been arrived at by the White Star, the Cunard and the other principal lines of mail and passenger steamers sailing from Europe to New York. The Lane route, usually followed by these vessels, is for the time being to be diverted to the southward and the tracks will be: West bound from May 24, cross meridian 47 w. in latitude 41 n. East bound: From May 10, cross meridian 47 w. in latitude 40.10 n.

The Great Western railway has just established a record in the journey from the west of England by bringing the American mails from Plymouth to London, a distance of 247 miles, in 3 hours 47 minutes, or seven minutes better than any previous performance. The mails were landed from the Kronprinz Wilhelm at 8.57 a. m. and at 9.23 the special train left for Paddington. A stop was made at Bristol to drop a portion of the mails and change engines, and the train reached the Great Western Metropolitan terminus at 1.10 p. m., the entire distance having been covered at an average speed, including stoppage, of slightly over 65¼ miles per hour. I mention this fact to show that at last a serious effort is being made on this side in this and in other directions to make as perfect as possible the arrangements for handling the foreign mails, about which there have been so many complaints of late.

By a majority of twenty-six the house of commons on Friday night passed the second reading of Mr. Plummer's lighthouse bill, which proposes to transfer to the board of trade the management of the lighthouses, etc., of the British Isles, and also to abolish light dues hitherto borne by shipping, making the lighting of the coasts a charge upon the national exchequer. This same bill was defeated last year by 11 votes. This is a distinct victory for the ship owners who have long agitated for the removal of this iniquitous tax, but whether the bill will make further progress in this parliament is doubtful. The fact that the house of commons has approved the principle of the bill should, in the event of failure this session, ensure its being brought forward in the near future as a government measure.

SCOTCH SHIPPING LETTER.

Glasgow, May 12, 1904.—Some months ago the engineering firms connected with the ship building industry in the north of England gave notice of a reduction of wages, both in time and piece rates, equal to 10 per cent. This was about the time reductions were being arranged in ship yard wages in Scotland as well as in the north of England, but elsewhere the wages of machinists were not touched. The north of England machinists after several meetings declared they would not accept the reduction and in the ordinary course the matter would have gone to conference with probable end in a rupture. But in the meantime came the little boom in ship building to which reference has been made in previous letters and the engineering employers were able to withdraw the notice of reduction, which they did ostensibly for six months. It is not likely they would have revived it, seeing that while the ship yards are so well employed there is certainty of continued employment in the marine engine ships. But the men have not waited, and taking time by the forelock have intimated to the employers that they now want an advance of 2s per week in time rates and 5 per cent in piece rates. This has taken the engineering employers very much aback, for while it is true the marine shops are busy it is also true that a great many, perhaps most, of the contracts for marine engines, like those for the hulls, have been taken at merely nominal prices and on long credits. There is no profit in the business and it cannot afford an increased charge in respect of labor. The federated employers have therefore informed the men that the state of the trade does not warrant the advance asked for. But it is too much to expect that this response will be tacitly accepted, though whether it will become a federation question or not cannot yet be seen. According to the constitution of the Federation of Engineering Employers the local associations have the power to arrange local wages and only appeal to the federation when they are unable to come to an arrangement with the local branches of the Trade Unions. It so happens that there is a considerable demand for machinists outside the marine shops and that is what stiffens the back of the trade union.

The turbine steamer Princess Maud built by William Denny & Bros., Dumbarton, for the Larne and Stranraer Steamship Joint Committee ran her trial trip on the Firth of Clyde a few days ago. There was a large company on board. The Princess Maud is a handsome vessel and her internal fittings are of a complete character. She has large accommodation for first and third-class passengers . Her principal dimensions are: Length 300 ft.; breadth, 40 ft.; and depth, 24 ft. 6 in. to promenade deck. A stiff north-westerly wind blew over the Firth during the trial and the stability of the vessel was thoroughly tested. Throughout the passage she behaved admirably, maintaining an even keel all day with practically no vibration on deck or in the cabins. Mr. Peter Denny said the Stranraer and Larne run for which the Princess Maud was intended was now the shortest one between Scotland and Ireland. Fourteen or fifteen years ago the joint proprietors gave his firm an order for the paddle-steamer Princess Victoria, a steamer

which revolutionized the service by doing the run in two hours. She was followed a year and a half later by the Princess May, and these two samples of shipping royalty had kept the service going up till the present. It had now struck the proprietors that if they were to retain their great reputation something newer in engineering skill must be utilized, and thus the Princess Maud, the first turbine steamer to be placed on service in the Irish Channel, was ordered. The speed of the boats at present on the route was 19¾ knots, while the Princess Maud had just easily attained between the Cloch and Cumbrae Lights a speed of 20¾ knots. In addition she had the advantages which belonged to turbines—absence of vibration and a much smaller risk of accident in rough weather. As a firm they considered her one of their successes, and he was sure her owners would consider her so.

Greenock used to be the hub of the West India sugar trade which was lost under the foreign beet bounty system. But cane sugar is now finding its way there again from many quarters. The iron ship Loch Finlas has just been towed from Holyhead with a cargo of 3,000 tons of cane sugar from Huanchaco, Peru, for the Greenock refineries.

It is remarked here as curious that in recent years many of the French built steel sailers which have come to Glasgow have had to undergo special treatment in order to arrest the progress of the severe corrosion and pitting in their outside plating and riveting, particularly between wind and water. The barque Bidart is now in D. & W. Henderson's Meadowside dock for overhaul.

John Brown & Co. Clydebank are laying down the big turbine Cunarder on a berth alongside the Caronia, now in hand. There are now three large Cunarders building at the same time in this yard. The large vessel is laid down so as when launched to run across the river and up the mouth of the tributary Cart. The Clydebank firm have a great advantage in the fact that the Cart enters the Clyde on the opposite side from their works, as this gives them sufficient launching room for very large vessels without their having to build them at an acute angle to the river Preparations are being made for laying down the keel of the sister Cunarder at Wallsend-on-Tyne. Large new building sheds have just been completed there, one of which will receive the Cunarder.

On behalf of the builders but in conjunction with the government of Japan an insurance of £880,000 has been placed on the new battleship to be built for the Japanese navy by Vickers Sons & Maxim. Of the total sum insured £365,000 represents the armor, while the hull, engines, and boilers absorb the balance. The vessel, named Katori, will be completed in about two years from laying the keel, and the insurance contract covers all risk during that period including fire marine perils during trial trips and test-firing of the guns. The option of proceeding to one of the British dock yards is also included, and underwriters' risks do not cease until delivery at Barrow to the representatives of the Japanese government after arrival of the crew. Two Russian cruisers were insured here simultaneously with the Japanese battleship above mentioned. These are the Shemschug and Isumarua, which are covered against loss or damage for four months whilst in the River Neva. Insurances have been effected at the instance of the builders during the construction of several British warships. H. M. S. Cochrane has been covered up to £580,000 at the Fairfield company's yard at Govan for three years, or until delivery to the admiralty; the machinery of H. M. S. Hibernia has been insured for £2,000,000 at Harland & Wolff's yard, Belfast; and the engines and boilers of H. M. S. Amethyst which is being built on the Tyne by Sir W. G. Armstrong, Whitworth & Co. are insured for £100,000. Notwithstanding the large amounts placed for insurance on warships under construction the market for this business does not get exhausted, as the business is welcomed, having hitherto proved profitable. Reinsurance of excess lines is invariably easy.

After a period of immunity from serious losses, underwriters now find casualties coming in fast enough. The stranded Turkish cruiser Medjidie, near Mitylene, was recently insured here for £300,000. She is a new vessel and a short time ago left Cramp's yard at Philadelphia where she was built. Underwriters insured her for the voyage from Norfolk, Va., to Constantinople, the risk to expire on delivery to the Sultan's representatives at destination. Another casualty which does affect underwriters is the misfortune to the German mail steamer Kurfürst, inward bound from Zanzibar, ashore in a dangerous position at Sagres. The Kurfürst of 5,655 tons, is one of the largest steamers of the German East African Line, built in 1901 at Hamburg. She is valued at £80,000 and insured in London and Hamburg. A third casualty which affects this market is the stranding at Santa Maria, South America, of the Nord Steam Navigation Co.'s steamer Nordby. She is a Danish vessel of 3,816 tons built in 1894 by W. Hamilton & Co. at Port Glasgow and previously named Arrandale. The above named Turkish cruiser Medjidie reported ashore near Mitylene is, however, not insured. The vessel had previously been delivered at Constantinople. Underwriters feared they might be liable under their insurance contract for £300,000, but their risks expired when the vessel was handed over to the Turkish authorities. Anotner new Turkish cruiser has been insured in London for £300,000. This is the Abaul Hamed built by Sir W. G. Armstrong, Whitworth & Co. (Limited). The insurance, which includes the armament (valued at £80,000), covers all risks from the Tyne until delivered to the Sultan's agents at Mitylene. High rates of premium have been paid against total loss only on the Danish steamer Nordby stranded at Santa Maria Chili and the German East African Mail steamer Kurfürst ashore near Sagres. It is reported that the cargo of nitrate in the Nordby is totally lost.

In the overdue market at Lloyd's the Lamorana, with a grain cargo insured for £20,000, is now practically given up as lost. Another vessel which is causing serious concern is the large French ship Lamoriciere on which 80 guineas per cent has been paid for total loss only. She sailed from New Caledonia on November 4, with a cargo of nickel ore valued at £8,000 for the Clyde. The Lamoriciere is valued at £18,000, is of 2,000 gross tonnage, and was built nine years ago at Rouen and registered at Nantes. London underwriters are interested through French agencies. This vessel if lost will add another to the large number of bounty-fed French ships which have been totally wrecked within the last few years. An agreeable feature in the insurance market is the report of the successful floating of the British steamer Craigneuk whilst on a voyage from Mantazas to Philadelphia with a cargo of sugar. She stranded on Brigantina shoals, New Jersey, and 30 guineas per cent was paid on her. Ship and cargo are valued at £50,000, but the British underwriters are mostly concerned with the ship, insurance on the sugar having been placed in America. Although damage and salvage expenses will have to be paid, underwriters will escape a total loss. Those who accepted 30 guineas per cent for reinsurance against total loss will make a satisfactory profit.

There are now 137 steamers, large and small, aggregating about 106,000 gross tons, plying in and out of the port of San Francisco, which are using California oil as fuel. It is generally figured that four barrels of oil equal in fuel value one ton of the ordinary steam coal used on the Pacific coast.

The city of Baltimore submitted to popular vote the question as to whether the sum of $6,000 should be appropriated for improved docks to take the place of those destroyed by the great fire last February. It was ratified by a majority vote of 23,000.

BELLEVILLE BOILERS AT SEA.

At a meeting of the Northeast Coast Institution of Engineers and Ship Builders, held in Britain recently, Engineer-Lieut. E. F. Baker read a paper on "the Management of Belleville Boilers at Sea," giving the result of the experience gained with these boilers in the cruiser Good Hope. Engineer-Lieut. Baker said that so much had been said to the discredit of the Beneville boilers that one wondered how it was that ships fitted with them were able to steam at all, and yet vessels fitted with Belleville boilers set out on voyages to all parts of the globe, and not only reached their destinations and came back again, but were ready to repeat the program. That there was a certain amount of perversity about the Belleville boiler could not be denied; but it had been proved over and over again that so long as it was reasonably treated, it would do its work in return. There were in the cruiser Good Hope forty-three Belleville boilers, designed for a pressure of 300 lb. to the square inch, and fitted with economizers. In ordinary conditions a pressure of from 225 lb. to 250 lb. of steam was kept in the boilers, giving from 200 lb. to 225 lb. pressure in the engine room. When the ship was first commissioned the maintenance of steam and the details as to cleaning fires were in a large measure left to the chief and leading stokers, who received their orders from the officer of the watch as to the pressure to be kept, the thickness of the fires, and the number of fires to be cleaned each watch. As the ship was not fitted with reducing valves, like some of the earlier Belleville ships, this arrangement proved unsatisfactory. Most of the men, having just come out of ships fitted with cylindrical boilers, treated the Belleville boilers as they had been accustomed to treat the former. When the pressure dropped everybody fired up with the result that it went up with a run, as also did the coal consumption, and this method of stoking was accompanied by clouds of smoke. Then the firing would cease, and in a short time the pressure would drop as fast as it had risen, and the same performance would be repeated, with the same unsatisfactory results. Again, the men would wait until the pressure was up before cleaning fires, when several would be started at once, with the natural result of a rapid falling of the pressure; and then some of the fires would be scamped, and the next watch would have more than their proper share to clean, and probably the steam would be down all the watch. The variation in the steam pressure and the consequent irregularity of the speed, as well as the quantities of smoke made, were at times considerable, owing to the difficulty of effectually controlling the working of the boilers. The irregularity in the steam pressure in these conditions was not surprising when one compared the quantity of water under treatment in the cylindrical and Belleville boilers respectively. The ratio of the quantity of water under treatment in the Belleville boiler to that in the cylindrical boiler was as 1 to 8.42. The large volume of water in the cylindrical boiler performed a function similar to that of the fly-wheel in the engines, in that it stored up the surplus heat energy above that actually required, with a slow rise of pressure, and gave it out again when required with a slow fall. The difference showed the necessity for more system and regularity in the treatment of the Belleville boiler, which was only possible with a thorough control of the firing and cleaning. To control the firing the first thing necessary was to determine the quantity of coal required to be burnt at the different speeds. Engineer-Lieut. Baker described the method adopted for ensuring regularity of stoking and the cleaning of the fires. The matter of his paper, he concluded, went to show that the much maligned Belleville boiler might, by suitable treatment, be not only tamed, but made as tractable, economical and orderly as any of her more distant relatives. He thanked the lords of the admiralty for the kind permission granted to him to read the paper before the institution.

SUMMARY OF NAVAL CONSTRUCTION.

The summary of naval construction, issued by the bureau of construction of the navy department, shows fair progress among naval craft. It is tedious to repeat the fact, but the Newport News Ship Building & Dry Dock Co., which is building the Louisiana, maintains its lead over the New York navy yard, which is building the Connecticut. Following is the summary:

		Degree of Completion. Per cent. Apl 1.	May 1, 1904.
Battleships.			
Ohio	Union Iron Works	91	93
Virginia	Newport News Company	56.8	59.4
Nebraska	Moran Bros. Company	44.5	46.9
Georgia	Bath Iron Works	49.91	52
New Jersey	Fore River S. & E. Co.	55.3	57.6
Rhode Island	Fore River S. & E. Co.	57	59.8
Connecticut	Navy Yard, New York, N.Y.	34.56	38.46
Louisiana	Newport News Company	44.27	47.91
Vermont	Fore River S. & E. Co.	5.6	6.8
Kansas	New York Shipbuilding Co.	6.3	7.5
Minnesota	Newport News Company	21.65	26.15
Mississippi	Wm. Cramp & Sons	0.7	2.3
Idaho	Wm. Cramp & Sons	0.6	2.2
Armored Cruisers.			
Pennsylvania	Wm. Cramp & Sons	71.2	76.9
West Virginia	Newport News Company	80.25	83.04
California	Union Iron Works	58	60
Colorado	Wm. Cramp & Sons	77.5	80.9
Maryland	Newport News Company	75.88	78.88
South Dakota	Union Iron Works	54	55.5
Tennessee	Wm. Cramp & Sons	23.4	28.9
Washington	New York Shipbuilding Co.	20.9	24.2
Protected Cruisers.			
Denver	Neafie & Levy Co.	99	99.9
Des Moines	Fore River S. & E. Co.	100	
Chattanooga	Lewis Nixon	75.71	80.01
Galveston	William R. Trigg Co.	75	78
St. Louis	Neafie & Levy Co.	40.9	41.2
Milwaukee	Union Iron Works	46	48
Charleston	Newport News Company	67.2	69.7
Gunboats.			
Dubuque	Gas Engine & Power Co.	33.5	40
Paducah	Gas Engine & Power Co.	29.1	33.5
Cumberland	Navy Yard, Boston	28.5	35
Intrepid	Navy Yard, Mare Island	12	16
Training Ships			
Boxer	Navy Yard, Portsmouth	28	34
Torpedo Boats.			
Stringham	Harlan & Hollingsworth	93	93
Goldsborough	Wolff & Zwicker	99	99
Blakely	George Lawley & Son	99	99
Nicholson	Lewis Nixon	99	99
O'Brien	Lewis Nixon	98	98

Contract has been awarded to the Morgan Engineering Co. of Alliance O., for a 100-ton set of tripod shears to be installed on the dock at the Charlestown navy yard at a cost of $19,425. The Robins Belt Conveying Co. of New York will furnish the coal carrying apparatus for the new power house at the Charlestown navy yard at a cost of $8,000.

The republican convention of the state of New Hampshire adopted a plan in its platform urging congress to enact legislation calculated to remedy the condition which at present exists in the foreign trade of the United States whereby 92 per cent of our exports go abroad in foreign bottoms.

Merchant Marine Commission—Senators.

THOMAS MARTIN of Virginia.

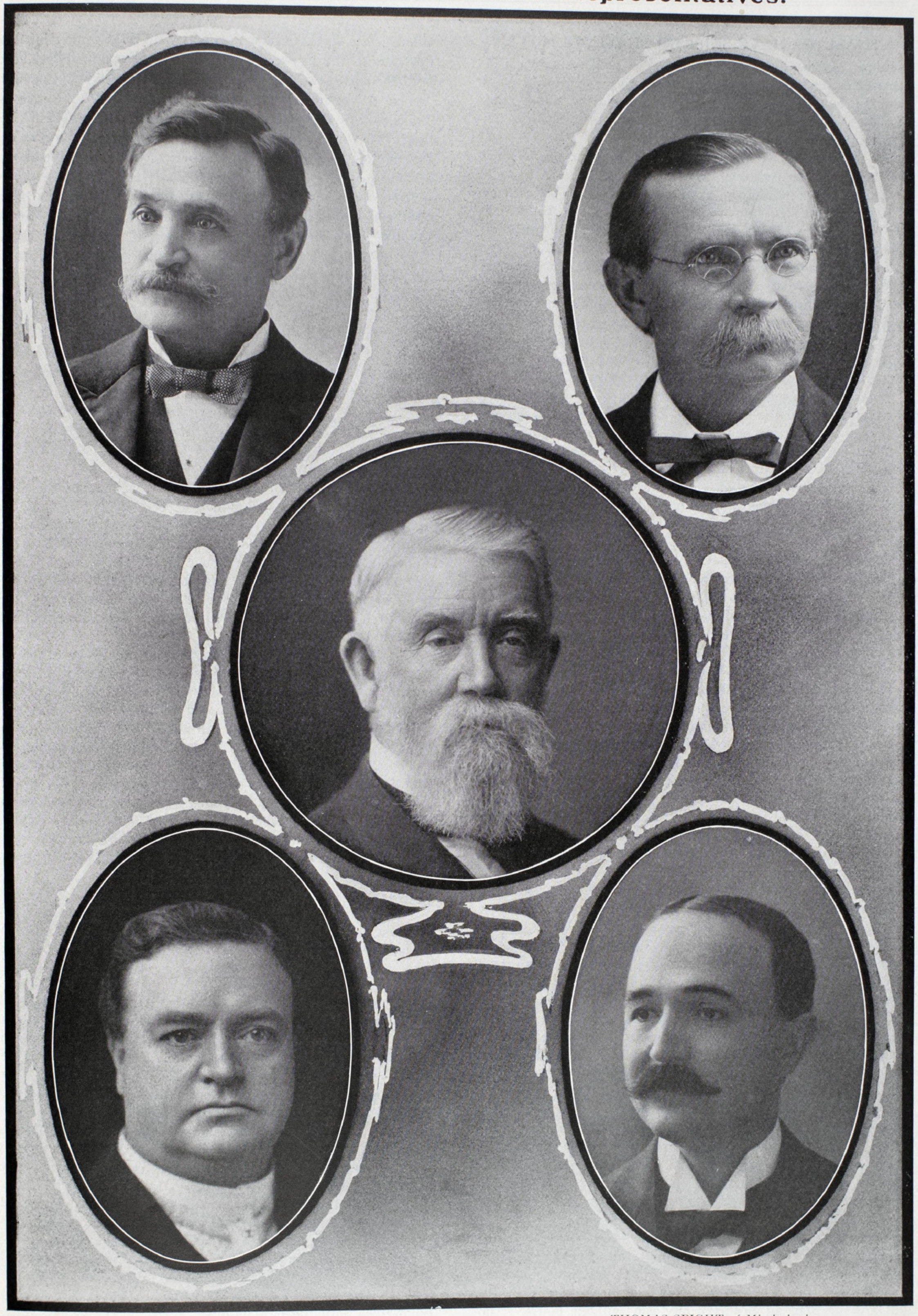
BOISE PENROSE of Pennsylvania.

JACOB H. GALLINGER of New Hampshire, Chairman.

STEPHEN R. MALLORY of Florida.

HENRY CABOT LODGE of Massachusetts.

Merchant Marine Commission—Representatives.



EDWARD S. MINOR of Wisconsin.

ALLEN L. McDERMOTT of New Jersey.

CHARLES H. GROSVENOR of Ohio.

THOMAS SPIGHT of Mississippi.

WILLIAM E. HUMPHREY of Washington.

SHALL WE HAVE SHIPS OR SHALL WE NOT?

Editor Marine Review: I believe that while America leads the world in some ways she *is* to lead the world in all ways. And this belief is not the outgrowth of a bigotry whose range of view is limited to one horizon for I was born under a foreign flag and with prejudice for this.

But to this expected leadership there is opposed one obstacle which neither the resources of the nation nor the energy and enterprise of its people can, unaided, overcome. That obstacle is America's weakness on the sea. While working wonders on the land, she is disgracefully conspicuous for her insignificance upon the ocean. I will not stop to ask the reasons why, it is enough that it is sadly true. With cheaper building elsewhere, and less cost of sailing ships, America cannot compete with other nations there. But with our manufactures growing faster than our population, what shall we do with our surplus? Shall we sell it abroad or suffer it to glut and stagnate our home markets? This is not only a question of dollars; it is also a question of National greatness.

What gave power to that narrow strip of ground between the mountain and the sea we call Phenicia and found for her unknown markets for her wares? Was it not her ships?

What but her ships made Carthage famous and even lent a splendor to her death?

Greece had her Marathon and her Hot Springs; but was it not her ships at Salamis, that hurled back the largest army earth has ever seen and stopped the Persian inundation of a helpless Europe?

Rome had her triumphs; but never till her ships had found a channel in the sea did she achieve the mastery of nations.

It was a saucy thing to do, but little Holland's admiral was justified in nailing to his mast a broom, for with her navy and her commerce she then swept the seas. Spain's prestige waned as her sea power declined.

Shall we learn no lesson from the past?

England's power rests almost wholly on her ships and Germany's observant emperor is building them. Both, know, dominion on the sea is protection to the shore.

Are, then, ships important? The argument against a navy, based upon the isolation of America, have lost their force. When the Pacific coast was inhabited by Indians, it asked for no protection. When America had no dependencies few battleships were needed. Now, with a coast line of thousands of miles, with dependencies remote and even Cuba's quarrels to espouse, what can we do without them? But how shall we build up a navy without a merchant service?

What nation ever did? Even to man our present war ships we are forced to seek recruits on western farms. But how long will it take a farm boy to become a sailor?

Then to have an efficient navy we must have a merchant marine. This is plain to see. But how shall we procure it?

We object to subsidies, we are not affectionately inclined to bounties or to increased duties.

But what shall we do? Shall we pay our sailors less and feed them worse? This is un-American. Shall we ask our ship yards to deliver ships at less than cost? This is unreasonable. But it is either this or something else, or be content to see our flag a stranger on the sea and look for it in vain in every foreign port. These are not questions for fostering a class. They have to do with every class. They touch the interest of every manufacturer, I care not what he makes, and every other man. As to commerce, all agree we must find outlets for our trade. But how? Trade follows ships—always, everywhere. Yes, but what ships? Whoever heard of a nation famous for an export trade on alien vessels.

Then, as to the navy. I once met a naval officer upon the ocean and over our cigars we fought the same battle every day, he for a navy and I against it. But that was before we had our little fuss with Spain. Now we can no more do without a navy than an ordinary city can without police. And where is the southern man who will yield to any other man in devotion to the flag and determination to uphold it? Then, both for commerce and a navy we must have ships. But how are we to get them? Buy them abroad? There are serious objections to that. Discriminate in duties in favor of the flag? That might do if the discrimination were not too great. But without rebates apparently excessive would dutiable goods produce enough to meet the need?

Then, there is that other way so talked about and we have such a horror of—subsidies. Yes, subsidies are bad. War is bad, too. But if others make war upon us, must we not fight? Why should we not defend our commerce as well as our coasts? If it is wisdom in others to subsidize, why should it not be wise for us? They have had experience and we have not, and they continue it. I have somewhere read of a savage chief, who objected to the white man's way of fighting that it was not fair. And because the white man, not content to fight with bows and arrows, would make war with guns and bullets, the savage must have guns and bullets too. Perhaps upon that principle we too must subsidize. Of course subsidies will cost us something. Investments always do. We invested in Louisiana and lately in Alaska. Commonly I think our national investments turn out well.

But I do not care for methods. Those whose business it is to see to such things will doubtless take the best. Only let us be proud of our country and strive to live up to her great destiny. This is all I ask. Let our flag be touched by every Arctic breeze and let it be afloat on every southern water. Self respect and a decent regard for our position among nations demand this of us. The difference is too great, the contrast is too marked, between America upon the land, and America upon the sea.

The glories of the past were written in the smoke of devastated homes and the mangled remnants of humanity. The triumphs of America must be inscribed in peace, prosperity and trade; but these must be promoted and protected by the flag.

I have been in places that the world calls famous, and in palaces of kings; but no place ever thrilled me as, standing on the summit of the Campanile, I knew I stood upon the spot where Galileo turned the first rough telescope toward the skies. But as I think of it, it seems to me that somewhere in the future I can see another Campanile and another Galileo with telescope swung out upon the seas where float pre-eminent in grandeur and magnificence the ensign of the great republic.

Shall we then have ships, or shall we not?

THEODORE HARRIS,

President Louisville National Banking Co., Louisville, Ky.

May 24.

Surgeon General Rixey of tne navy department has received an interesting report from Dr. H. D. Wilson of the gunboat Vicksburg, who attended the wounded on the ill-fated Russian crusier Variag. Of the wounds dressed nearly all were in the lower extremities, which is accounted for by the fact that while many were hit in other parts of the body the injuries were so frightful as to cause instant death. No attempt was made to perform operations, and as soon as dressings were applied, the wounded were put in boats and taken to foreign ships. Many of the wounded died later as their injuries were in general of a very severe nature. In this battle the ships were from 3,000 to 7,000 yards apart and the actual firing did not last over twenty-five minutes. Dr. Wilson's conclusion is that it will be impossible to attend the wounded during an engagement between modern ships unless the number of medical attendants is tremendously increased. With the present allowance the wounded would be obliged to take entire care of themselves until the fight is over.

MERCHANT MARINE COMMISSION.

Especial interest centers in the personnel of the Merchant Marine Commission appointed by congress to inquire into the state of American shipping, whose sessions began in New York during the present week, an account of which will be found elsewhere. The commission is very well divided, both politically and geographically. There are from New England, Senator Jacob H. Gallinger of New Hampshire, chairman of the commission; Senator Henry Cabot Lodge of Massachusetts, both republicans. From the middle states there are Senator Boies Penrose of Pennsylvania, republican, and Representative Allan L. McDermott of New Jersey, democrat. From the middle west, Representative Charles H. Grosvenor of Ohio, and Edward S. Minor of Wisconsin, republican. From the south Atlantic states, Senator Thomas S. Martin of Virginia and Senator Stephen R. Mallory of Florida, democrat. From the gulf coast, Representative Thomas Spight of Mississippi, democrat, and from the Pacific seaboard, Representative Wm. E. Humphrey of Washington, republican. All of the senators with the exception of Mr. Lodge are members of the senate committee on commerce, which has special jurisdiction over marine matters, and all of the representatives are members of the corresponding merchant marine and fisheries committee of the house. The members, therefore, have had previous training to qualify them for their work.

Senator Gallinger, the chairman, is of Dutch ancestry, his paternal great-grandfather having emigrated from Holland previous to the revolutionary war, first settling in New York, where his grandfather was born who afterwards moved to Canada. Senator Gallinger was born on a farm in Cornville, Ont. He received a common school and academic education and was a printer in his early life. Later he studied medicine and practiced this profession until he entered public life. He was a member of the house of representatives of New Hampshire in 1872 and 1873. He was also a member of the constitutional convention in 1876. He has been several times the chairman of the republican state committee in his own state. He was elected United States Senator to succeed Henry W. Blair and took his seat March 4, 1891 and has been twice re-elected since.

Senator Henry Cabot Lodge is probably the most scholarly man connected with the commission. He graduated from Harvard college in 1871 and from the Harvard law school in 1875. He has published a number of books, including the lives of Washington, Hamilton and Webster. He is a member of various historical societies and has received a decree as doctor of laws from Williams college. He was permanent chairman of the republican national convention which met in Philadelphia in 1900. He was first elected to the United States senate in 1893.

Senator Boies Penrose was born in Philadelphia in 1860, and graduated from Harvard college in 1881. He was admitted to the bar in 1883 and was elected to the Pennsylvania house of representatives in 1884. He succeeded J. Donald Cameron in the United States senate in 1897.

Senator Thomas S. Martin was born in Scottsville, Va., in 1847. He was educated at the Virginia Military Institute and at the University of Virginia. Though not a regularly enlisted soldier, considerable part of the time while he was a cadet at the Virginia Military Institute was spent in the military service of the confederate states, with the battalion of cadets of the institute. He was licensed to practice law in the fall of 1869, since which time he has devoted himself closely to that profession. He was elected to the United States senate from Virginia in 1893.

Senator Stephen R. Mallory of Florida, was born in 1848 and entered the confederate army in Virginia in the fall of 1864. In the spring of 1865 he was appointed midshipman in the confederate navy and at the conclusion of the civil war entered Georgetown college, graduating in 1869. He was admitted to the bar at New Orleans in 1873. He was elected to the lower house of the Florida legislature in 1876 and to the senate of Florida in 1880. He was a member of the fifty-second and fifty-third congresses, and was elected to the United States senate in 1897.

Representative C. H. Grosvenor of Athens, O., was born at Pomfert, Conn., in 1883. His grandfather was Col. Thomas Grosvenor of the second Connecticut regiment in the revolution, and his father was Major Peter Grosvenor who served in the tenth Connecticut regiment in the war of 1812. He came to Ohio with his parents in 1838. There was no school house near where he settled until he was fourteen years old, where he attended a few terms in a country log school house in Athens county. Later he taught school and studied law and was admitted to the bar in 1857. He served in the union army in the eighteenth Ohio volunteers during the entire action. He reached the rank of brigadier-general of volunteers and commanded a brigade at the battle of Nashville in December, 1854. He was a member of the lower house of the Ohio legislature from 1874 to 1878 and served as speaker for two years. He has been authoritative in many national political conventions and has been in congress for many years.

Representative Thomas Spight was born and reared on a farm in Tipper county, Mass., and has lived in that county all his life. At the outbreak of the civil war he left college and entered the confederate army as a private and became captain of his company before he was twenty-one years old. He participated in nearly all of the battles fought by the army in Tennessee and was severely wounded at Atlanta, Ga., in 1864. He surrendered with the army under Joseph E. Johnston at Greensboro, N. C., and returned home to find all the property of his father's estate swept away as a result of the war. He began teaching school, farming and studying law. He was later admitted to the bar. He established the *Southern Sentinel* in 1879 which he continued to own and edit until 1884, when he was elected district attorney. He has been elected to the fifty-fifth, fifty-sixth and fifty-seventh congresses.

Representative Allan L. McDermott was born in South Boston, Mass. He is a lawyer by profession and has been corporated attorney of Jersey City, district court judge and president of the Jersey City board of finance and taxes. He was elected to the fifty-sixth congress to fill the vacancy of Hon. G. W. Daly and was then re-elected to the fifty-seventh congress.

Representative Edward S. Minor was born in Jefferson county, New York, in 1840, and went with his parents to Wisconsin in 1845. He received a public school and academic education and in 1861 enlisted in the second Wisconsin volunteer cavalry as a private, and participated in all the battles of that regiment until the close of the war. He was mustered out as a first lieutenant in 1865 and engaged in mercantile pursuits until 1884, at which time he was appointed superintendent of the Sturgeon Bay & Lake Michigan ship canal, which position he held for seven years. He was elected to the Wisconsin assembly in 1877 and re-elected in 1880 and 1881. He was elected to the state senate and served in that body in 1883 and 1885 and was president pro tem. of the senate during the latter term. He was elected to the fifty-fourth congress and has held that office since.

Representative Wm. E. Humphrey of Washington is a newcomer in congress. He is an extremely young man, but it is claimed that he is well informed on shipping affairs and is expected to be a most excellent member of this important commission.

DEVOTED TO EVERYTHING AND EVERY INTEREST CONNECTED OR ASSOCIATED WITH MARINE MATTERS ON THE FACE OF THE EARTH.

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The commerce of the great lakes has grown so great that in order to accommodate it almost as much as half a million dollars is put into a single ship as witness the giant freighter Augustus B. Wolvin. Practically all of this commerce has to pass through the ship canal in St. Clair flats. This little slip of water, only a few hundred yards long, carries more than four times the commerce of Suez. Last fall the navigation interests of the great lakes received a shock when the steamer John W. Glidden was sunk in collision directly in the middle of this canal, blocking traffic both up and down completely for a day or two and hindering it seriously for weeks thereafter. Vessels could not pass at night at all and only in the day time with the aid of two tugs. The accident happened at the tail end of the season so that the consequences were not what might be termed disastrous. But suppose a big steel carrier should meet with such an accident in the canal in the height of the season. The monetary loss to the shipping interests of the great lakes would be enormous. Such an accident is not probable but past experience proves conclusively that it is possible.

Bids were recently opened at Detroit for constructing a second channel at this point which would obviate the danger of any blockade. The purpose is to have the upbound vessels use one channel and the down-bound the other. Eleven bids were opened. This work is so important and so absolutely necessary that vessel interests are much concerned in having it done well and without any possibility of failure on the part of those undertaking it. The government should inquire that ample bonds be given to have the work done right and with dispatch. With such vessels as the Wolvin and the Sahara plying the lakes, it becomes essential that waterways should be adequate or should be made so with the utmost expedition; and this can be secured without question by entrusting the work to well-equipped experience backed by ample bonds.

Coming events cast their shadows before them and the merchant marine commission is now looming large upon the horizon. The work of this commission is one of the most important that congress has assigned to a body of men of late years. That the commission intends to go thoroughly about its business is now evident. It was at first inclined to hold only one meeting on the great lakes and that only through a sub-committee. The Marine Review can claim no little credit for altering this determination on the part of the commission. Meetings will be held at Buffalo, Cleveland, Detroit and Chicago. Nearly every member of the commission will come. It required some earnest campaigning to do this but it has been successfully done.

The commission is coming to see why it is that the United States is such a success in the lake region, as far as shipping and shipbuilding is concerned, and such a failure elsewhere. They come to examine shipbuilders, ship owners, members of boards of trade, chambers of commerce, business men, manufacturers, seamen and everyone interested in this great subject. No stone should be left unturned by these varied interests to supply the commission with all the data available. It is needless to repeat here the causes which have inspired the appointment of this commission. They have been detailed several times in these columns and are pretty well represented in the pages devoted to the coast meetings of the commission in the present issue.

One of the greatest merchant fleets in the world operates on the great lakes because it is protected both by nature and by the coastwise laws. The merchant marine of the great lakes is a splendid example of what may be done under fair conditions on the ocean. Practically 96 per cent of the commerce of the great lakes is carried in American ships. Less than 8 per cent of the commerce that rightfully belongs to American ships is carried by American ships in the foreign trade of the United States. The commission will get graphic pictures from the great lakes region that will be emblazoned on their memories forever.

But there is a more important question to this issue than that of shipping. It is the question of the liberation of the great manufacturing interests of the inland states who desire uninterrupted avenues for reaching the foreign field. It is impossible now for the great manufacturers of the inland states to reach the foreign field without depending entirely upon the sufferance of

other nations. It is a startling thing that there is not a single American line reaching the South American market. The South American market cannot be reached except by ships; there are no railways to reach it. How long is this serious handicap upon the American manufacturers to last?

The Marine Review will venture the prediction that the members of this merchant marine commission will have their eyes opened wider than they were opened before when they come to the great lakes and are spectators of the amazing commerce that has been built up along its shores. It is an impressive object lesson and there is nothing like it on the face of the earth. If the Review does say so itself it is deserving of credit for persuading the commission that it should hold four meetings on the great lakes instead of one.

Great Britain is at present considering the advisability of the adaptation of the oil engine to the propulsion of canal boats. Naturally as all civilized countries are rich in the great framework of canal systems, there is a suggestion to all nations in this. Freight carriers that can navigate canals are, of course, small and a considerable part of the available space is taken up by the machinery. When displacement is a consideration every pound saved is a matter of great concern. During late years canals have been of diminishing influence, owing to their exceeding slowness in transit in contrast with the rapidity of the railway, but their cheapness as a mode of communication is not in dispute. In the adaptation of the oil motor to canal propulsion there is to be considered the great saving in weight between the oil motor and the steam engine. Thus a 20 B. H. oil engine with sufficient oil to run it for six hours weighs about 500 lbs., whereas a condensing steam engine and boiler of the same power weighs approximately 2 tons and this does not reckon in coal or water of which about a ton would be necessary. Thus it may be taken that the oil motor weighs just about one-twelfth as much as a similar-powered steam engine. In space, too, the oil motor has the advantage since the whole apparatus is very little larger than the engine alone of the steam plant. A steam engine has the advantage that it may be started by merely opening the stop valve, once steam is up; but with the modern light oil motors with electric ignition there is really very little trouble about getting under way; certainly there is no waiting to get up steam. All that is necessary is to retard the spark somewhat, giving the starting handle one or two turns and the engine is going. The spark is then adjusted to the most suitable time and the engine is developed to its full power within a minute of commencing operations. The great saving in weight effected makes it possible to put very powerful engines into small light boats.

What is true of the canal systems of Great Britain is also true of the United States. The canal systems of the United States did much to make communication possible when the railways were either non-existent or in their infancy. The development of the railways has been accompanied by a corresponding lessening of the usefulness of the canal, but there is still a fair trade of which the canals cannot possibly be deprived because for that trade they are the most economical carriers. What possibilities the oil engine may have for their rehabilitation must be left for the future to determine but it would indeed seem to be considerable.

"THE MAN AT THE WHEEL."

Strike, Strike, Strike!

Strikes in every direction.

And no sign of the strike germ being located and a remedy discovered.

But it will be as we have said before, perhaps of course, when business is being universally paralyzed and the people have become outraged to the point when forbearance is longer impossible.

Then will the day of all this riot and rebellion see its finish.

Because it just opens rebellion, setting the laws aside and trampling rough shod constantly over the civil and personal rights of thousands of citizens.

Employes have their rights of course and primarily have the right to organize and they cannot be blamed for doing so or endeavoring to exact from their employers all the traffic will stand.

And when they cannot get it they have the right to strike and if they can persuade anyone else to strike that is their privilege, no matter how far they carry it.

But there is where this thing has got to stop or we will be accustomed to the steady tramp of the regulars upon our streets and public places.

It is only the feeling that their lives will not be fully protected that prevents in every great strike wholesale desertions from the ranks of the strikers, the great majority of whom are never in full accord with the radical actions of their leaders.

And they are justified in feeling that way.

The honest industrious man who is coerced into joining a labor organiaztion by just such methods as obtain in preventing him from afterwards leaving it or the non-union man from taking the striker's place, is justified by experience and all he sees about him from doing what he thinks right.

He knows that in a case like this no one respects the law. The striker just laughs at it. He does not hold it in contempt, he just laughs at it and knows that with a very little prudence he can do anything and it will be overlooked.

The non-union man knows that he won't get any justice and it has got to the point when he does not look for it.

The employer makes a feeble protest and all that sort of thing, gives out newspaper interviews, rages and protests.

But the union is doing business all the time and in all probability was doing it for days and weeks and months unknown to the employer who serenely conscious of his own great strength and ability, has permitted the upbuilding of a machine that becomes an open conspiracy with his own overthrow as its sole object.

We had better imported a few first class cases of small-pox.

And that is not all, because of his feeling of false security and the belief that he had always and was inclined to treat his employes kindly and even generously, he had been influenced to make concessions of apparently minor importance perhaps, that have had an exaggerated effect upon the minds

of those who were benefited and they are persuaded that "the old man is easy."

And perhaps there have been other reasons.

There may have arisen labor difficulties of some sort in which the employer, in his embarrassment has felt too much concern for the present moment and has followed the lines of the apparent least resistance and made concessions of a far reaching effect that have reacted later.

Examine the records and you will find that this has occurred in nearly every case.

And it is hard to regain lost ground.

But here we have a strike among the masters of the merchant fleet on the Great Lakes that were it not for the peculiar business conditions existing, might have been sufficient to bring on a national panic.

And no one in this world has ever believed that the great captains of steamships would have ever joined a labor union, or that they would practically all have joined and then gone on a strike.

Shows how little we have been appreciating the tendency of the times.

The captains give as one of their reasons that they were compelled to join or they could not get "union mates." There were no non-union mates.

Then was the time to have fought it out.

Imagine the "Steamboat Cook's union" and the "United Dishwashers' association" insisting that the deck hands and the captains both should be union men or they would not work

But this is only a type of the national situation and there is only one way out let the cost be what it may.

In New York the Freight Handlers' union have tied up the steamship lines of the New York, New Haven & Hartford Steamship Co.; they have been joined by the firemen and it has extended to the Mallory lines with the threat that unless they get what they want they will tie up all the boats going in and out of New York harbor and all the freight on the railroad part of the company's system.

And so it goes.

In Buffalo certain workmen at the elevators have "got busy" and are on strike and so shipments are going by other routes.

Tomorrow it will be somewhere else.

And this is only one case.

Employers must unite and act as a unit.

They must be fair to their employes.

They must not be willing to either take from or concede to their employes anything that is unfair.

And when they have right on their side they must fight it out right then and there.

Then will they be respected.

They must not permit an employe to be coerced into joining a labor organization.

They must not tolerate the discharge of a non-union employe.

If they do either they must never afterwards complain.

But there is a more general measure of enlightenment on these questions now than ever before, and in the exact ratio to the extent to which employers follow these simple rules will they succeed or fail.

And if the employers fail eventually the employes fail.

And if the employers win it means peace and happiness to their employes.

There can only be one straight road between two points.

ENDEAVORING TO OPERATE THE VESSELS.

The situation between the masters and owners of lake vessels has vitally changed during the past two days and the present week will put some of the boats in operation. The Saxonia of the Tomlinson fleet was the first to get under way, leaving Buffalo on Wednesday, and it is the intention that more shall start during the present week. This is in accordance with orders from the executive committee of the Lake Carriers' association, which is conducting the affair for the vessel owners. The leading owners have doubtless made a canvass of the situation and have concluded that the time is opportune to put some of the boats in commission. Of course, a number of masters have been aboard their vessels for weeks awaiting a settlement of the trouble. Moreover, there have been during the past few days incipient evidences of dissatisfaction among the masters themselves over the manner with which their part of the controversy has been managed. This was especially evidenced in a petition signed by twenty-six captains and sent from Milwaukee to Cleveland, urging that concessions be made and representing that it was not to the interest of masters to demand all concessions and to make none.

Gathered from statements issued by District Captain Howell during the week it does not seem to be generally understood that the vessel owners are willing to pay last season's Lake Carriers' scale of wages. He states that the executive committee merely recommended to their members to pay the same wages paid last year. This would be a distinction without a difference were it not for the fact that one vessel owner who was not a member of the association last year paid a somewhat lower rate than that which obtained among the Lake Carriers. Whatever ambiguity there may have been, however, in this language, ought to have been cleared away by the positive assurance of President Livingstone that all members of the association would pay last season's Lake Carriers' scale of wages. This was repeated several times, but District Captain Howell even so late as Monday of the present week appears not to have understood it. Nor does it appear to be generally understood among the masters that Mr. Coulby, president of the Pittsburg Steamship Co., agreed to abolish the third-class classification which obtained last year among the vessels of the Pittsburg Steamship Co. Mr. Coulby agreed to do this before the referendum vote was taken and so notified District Captain Howell but some of the masters appear not to have heard of it.

Orders were issued during the week by the district captain to the masters not to visit the owners or their agents, but this order has not been altogether observed, because some of the masters have rather intimate relation with their owners. However, the Perry-Payne building in Cleveland was never so deserted by masters as it has been during the present controversy. If present indications count for anything there will probably be from now on a gradual resumption of business.

LAKE SUPERIOR CO. NEGOTIATING FOR PIG IRON.

Duluth, May 25.—Negotiations between the Zenith Furnace Co. of Duluth, and the Lake Superior Co. of the Sault, for the purchase of the latter of 50,000 tons of Bessemer pig from Duluth, for the Sault rail mills, have not been closed, but is liable to come to a head in a few days. The Lake Superior company will not be able to make steel from their own pig for some little time. Fires were started last Thursday in the ovens of the Zenith company's new by-product plant, and in about thirty days they will be ready for charging. The company has 20,000 tons of coal on hand and is now receiving more by lake over its new docks, which are among the most perfect on the great lakes. It is expected that about July 1 the furnace will be in operation.

WISCONSIN & MICHIGAN IN ORE CARRYING TRADE.

Duluth, May 25.—The Wisconsin & Michigan railroad is preparing to enter the ore carrying trade of the Menominee range in a large way. June 10 it will put on additional service from mines to its ferry docks at Pestigo. It is constructing tracks into the Aragon and other mines of the United States Steel Corporation and others at Norway and vicinity, is already into a number of mines in that district and will soon have its main line so far completed that it can build into Chapin, Pewabic and other large mines of Iron Mountain. It is now in touch with mines at Crystal Falls and at other points. The plans of this road are so radically different from those of any ore hauling line in the northwest that they will be followed with interest everywhere by railway and transportation men. The company designs to extend the radius of the car ferry to main line transit. In other words it will utilize car ferries for carrying its ore-laden trains from its terminus on upper Lake Michigan to ports of delivery. At present Chicago and Milwaukee are named as the limit of its operations, but if the car ferry is good for the 300 miles from Pestigo to South Chicago, it should be good for the 750 miles from Pestigo to Buffalo. In either case the distance is so great as to pass beyond the mere question of ferriage to that of long-distance transit. The Wisconsin & Michigan loads its ore trains at mines along the Menominee range as do its competitors, and carries them to deep water on Lake Michigan, as they also do. But there the similarity ends. Other roads have their ore docks and tranship to vessels, ceasing their share of the haul. At the eastern end of the route the vessels discharge into costly docks at a considerable expense. The Wisconsin & Michigan, on the other hand, does not cease its prorate in the haul till the freight is delivered in furnace yards, but instead of a costly railway with its right of way to buy and its tracks to maintain, it has a couple of high powered ferry boats. Its ore docks degenerate into piers for these ferries. At the lower end of the run these ferries have similar piers and the trains of ore are run ashore, taken by locomotives to the yards of consumers. This obviates costly terminals, etc., but of course it adds other expenses. The plan seems a good one, and the company is certainly making its experiment with evidence of a thorough belief in its availability and with good faith in the result. It has staked its all on this method of ore transportation.

It is expected that many thousand cars of ore will be handled over the company's new lines this summer, and that it will prove a considerable competitor for the Chicago & Northwestern and the Chicago, Milwaukee & St. Paul, which have held the traffic. Up to two years ago the former was alone in possession of the field, having been so since the Milwaukee's withdrawal many years before. Now, however, there are three to divide a traffic which is actually less, this year, than when the whole was in possession of one line.

GRAIN SITUATION AT DULUTH.

Duluth, May 25.—Grain stocks at the head of the lake have decreased slightly during the week, chiefly on account of all-rail shipments of wheat and coarse grains east. There are now in store here 15,308,000 bu. all grain, of which 8,154,000 is flaxseed, 4,337,000 bu. wheat and 2,055,000 oats. Receipts are very small, and so far as wheat is concerned are almost entirely low grades.

Package freight managers here have received notice that if the lake situation is not settled in a few days to discharge a certain large percentage of their force and to cut salaries of much of the remainder.

In Manitoba and the northwest territories it is stated in the latest letters to grain offices here, that 90 per cent of the whole expectation west of the Red river valley is seeded, and that in the valley here is not less than 60 per cent in crop. This will be seeded this week. The expectations are for a larger crop in the Canadian northwest than last year for the acreage is much bigger. Practically all wheat country south of the international line, in North Dakota and Minnesota is seeded and the grain is commencing to come up in May of the more northerly districts that were seeded in reasonable time.

Late last week there was a very strong demand at Duluth for cash wheat for the east and for Chicago, to be shipped all-rail. Buyers were in the Duluth market for wheat to be shipped all-rail to New York, at a rate of 22 cents per 100 lbs., and to Buffalo at 18 cents. The top price was bid for wheat under these freights, and a good deal was sold. But shippers were unable to secure anything like what they wanted, as it seemed almost impossible to get the stuff, either what is in store at the head of the lake is held privately or the owners are afraid to sell.

APPOINTMENTS OF MASTERS AND ENGINEERS.

Pittsburg, Bessemer & Lake Erie Ry. Co., Conneaut, O.: Steamers—Marquette and Bessemer No. 1, Capt. R. R. McLeod, Engineer E. Wood; Pere Marquette No. 16, Capt. G. L. Thompson, Engineer Chas. Sylvester.

Pere Marquette S. S. Co., C. F. Blomeyer, president, Milwaukee: Steamers—Pere Marquette No. 5, Capt. ———, Engineer ———; Pere Marquette No. 15, Capt. Barnett, Engineer C. E. Sylvester; Pere Marquette No. 16, Capt. G. L. Thompson, Engineer G. Van Brunt; Pere Marquette No. 17, Capt. Jos. Russell, Engineer ———; Pere Marquette No. 18, Capt. G. Kilty, Engineer G. Henderson; Pere Marquette No. 19, Capt. Wm. LaFleur, Engineer J. C. Watson; Pere Marquette No. 20, Capt. J. C. Ackerman, Engineer R. McLaren.

R. O. & A. B. McKay, Hamilton, Ont.: Steamers—Neepawah, Capt. O. Patenaud, Engineer Robt. Duguid; Wahcondah, Capt. James Delaney, Engineer R. W. Ross; Strathcona, Capt. Wm. Irving, Engineer James Smeaton; Donaconna, Capt. Jas. W. Mawdesley, Engineer John Duguid, Lake Michigan, Capt. James Fitzgerald, Engineer J. Hamlin.

Edward Hines Lumber Co., Chicago: Steamers—L. Edward Hines, Capt. S. B. McCann, Engineer Chris Smith; L. L. Barth, Capt. Wm. Roach, Engineer Chas. Jeubenville; Trude K. Wiehe, Capt. Geo. B. Tisdale, Engineer Frank Nold; Oscoda, Capt. James Carr, Engineer Chas. McElroy; Comorant, Capt. K. McKenzie, Engineer Reuben Ellis; Louis Pahlow, Capt. W. J. McKay, Engineer Chas. A. Perry. Schooners—Wayne, Capt. E. Jacques; Selden E. Marvin, Capt. Fred Anderson; Nirvana, Capt. John Hudson; Galatea, Capt. Alfred Germain; Alice B. Norris, Capt. Horace Achie; Helvetia, Capt. J. Jennings; D. L. Filer, Capt. Jos. Rose; Ida Corning, Capt. Peter Edgar; City of Chicago, Capt. Geo. Smehy.

Nipigon Transit Co., O. L. E. Weber, secretary, Pt. Huron, Mich.: Steamer—J. C. Ford, Capt. N. L. Morrison, Engineer H. Manion.

John J. Boland & Co., Buffalo: Steamers—Congress, Capt. David O. Hagan, Engineer Knibbs; Westford, Capt. John Griffin, Engineer Lawrence Brown; Eber Ward, Capt. A. B. Slyfield, Engineer Geo. Schnell; John Pridgeon, Capt. John O'Hagan, Engineer Chas. Butler; Alcona, Capt. Aug. Jean, Engineer ———. Schooners—Massasoit, Capt. Chas. Keenan; Alta, Capt. Hugh O'Hagan.

J. G. Keith & Co., Chicago: Steamer—Parks Foster, Capt. David Wilson, Engineer M. Crisp; Ira H. Owen, Capt. Geo. E. Merritt, Engineer Hugh Buchanan.

H. N. Loud, Au Sable, Mich.: Steamer—John B. Ketcham, Capt. Martin Christy, Engineer Geo. Bowman.

The government has granted the right to the Great Lakes Towing Co. to lay a telephone cable from its office to the breakwater at Buffalo, where a man will be stationed to report incoming vessels.

Merchant Marine Commission Hearings.

The Merchant Marine Commission appointed at the last session of congress to consider and recommend legislation for the development of the American merchant marine began its first session in the rooms of the Board of Trade in New York on Monday of the present week. The sessions will continue in the coast cities, such as Philadelphia, Baltimore and Boston, during this week and a part of next and then the commission will come to the great lakes. Great interest is being displayed in the inquiry and merchants and manufacturers who are interested in shipping and ship building from various parts of the country were present. The hearing was opened by Mr. Darwin R. James, who on behalf of the Board of Trade & Transportation, welcomed the delegation. Mr. Darwin stated that the percentage of American tonnage engaged in foreign commerce had become so small that it was hardly worth while to mention it. He thought the time had fully arrived when this mighty nation should stir itself and cast about to see if there is not some reasonable way of beginning to develop its merchant marine. He said the Board of Trade had no favored theory to urge nor no sovereign remedy to propose, but that it simply desired to inform the commission as to existing conditions in order that it might itself arrive at a remedy.

Senator Jacob H. Gallinger of New Hampshire, the chairman of the commission, in responding referred to the act which had created the commission and said:

"It is a matter of universal knowledge and almost universal regret that our deep sea shipping is practically driven from the ocean, more than 90 per cent of our foreign commerce being carried in foreign ships, flying foreign flags. It seems to me that what we want more particularly to inquire into is the remedy for the existing deplorable state of affairs, and we are fortunate indeed if the discussion here and elsewhere sheds such light on the subject as will enable this commission to recommend to congress legislation of a remedial character. It is the desire of the commission that those who participate in the discussion will feel at liberty to present the subject each in his own way, it being understood in advance that the commission is not here for the purpose of exploiting any particular theory or advance the interests of any particular measure. We will be pleased to hear those who advocate direct subsidies and equally those who believe that the adoption of a system of discriminating duties will solve the problem, or any other method that promises relief. We will also be glad to hear from the representatives of labor, the representatives of seamen or other organizations in the hope that they may be able to shed more or less light on this complex and troublesome question."

Following Senator Gallinger's remarks a letter was read from Mr. Aaron Vanderbilt, chairman of the Board of Trade's merchant marine committee and who has personally given great attention to the shipping question. In his letter Mr. Vanderbilt said:

"I have the honor to acknowledge receipt of your communication of the 13th inst., inviting me to be present at the hearing of the Merchant Marine Commission on the 24th inst. and to state to the commission what, in my judgment, should be done to arrest the decline of our shipping in the over sea trade and to restore the old maritime strength of our country. The special committee on the merchant marine of the New York Board of Trade and Transportation, of which committee I have the honor to be the chairman, was appointed to inquire into the alarmingly depleted state of American shipping in the foreign trade which is now 100,000 registered tons less than almost 100 years ago when we carried 90 per cent of our over sea commerce, while we now carry less than 9 per cent. The committee prepared a statement showing these facts, and this with the board's resolutions setting forth the non-partisan purpose of our inquiry were forwarded to all the newspapers and commercial associations of the United States. We have been gratified by the volume and character of response. The result has been a vivid demonstration that popular interest in the cause of American shipping is deep and earnest not only in our seaboard communities but in the Mississippi valley and the farther west. We have received replies from nearly every state and territory of the union, hundreds in aggregate number, all manifesting a desire for the upbuilding of a new American merchant marine.

Many commercial associations in answer to the board's inquiries have adopted resolutions urging the question of the American ship upon the attention of the country's business interests and of congress. Some of these resolutions have indicated a preference for this or that particular policy of relief, but in the majority of cases there has been merely an emphatic declaration that something should be done, leaving the precise method to further investigation or to the wisdom of the government. Of course the question has aroused favorable action in seaboard cities where maritime interests are strong, but it is significant that earnest resolutions have come from important cities of the middle west like Denver, Omaha, Milwaukee and from San Francisco and Seattle, as well as New York and Philadelphia, and even from Alaska, Porto Rico and the Hawaiian islands. Resolutions and correspondence are still coming in and it is plain that the question of our merchant marine steadily assumes increased importance before the country. It is not a pleasant thought to the patriotic citizen that our ocean tonnage is now 100,000 tons less than it was almost 100 years ago when it carried 90 per cent of our commerce and now carries less than 9 per cent.

"Under such conditions we may contemplate with alarm our predicament as a nation in the event of difficulties with a foreign power. The navy and merchant marine of Japan in her war with Russia commands the sea. Her merchant marine furnishes a reserve for her fleet and transportation for her armies and supplies, again demonstrating the advantage of sea power in a nation's peril. The committee has not as yet finished its investigations and deliberations and I am, therefore, unable to present its views at this time. I feel that under the circumstances any expression of my personal opinion of a specific method would be out of place and I prefer to defer the making of any statement until I can do so with the sanction of my committee and the approval of the body it represents. Thanking you for the honor conferred upon me by your inquiry and trusting to avail of the opportunity before the close of your deliberations, I beg to subscribe myself,

Yours respectfully,

AARON VANDERBILT."

Mr. Thomas Clyde of William P. Clyde & Sons was one of the first witnesses. He advocated a construction bounty for a limited period of time. He presented a chart showing the standing of the chief maritime nations of the world. The United States stands at the bottom. All the nations, he said, had given aid of some sort to natural conditions. He added:

"It is simply a question of whether the advantages to this country of having a thriving, growing ship building industry, capable of producing ships suitable for every trade, are worth a construction bounty equivalent to the difference between the price at which our ship builders can now put ships of the required types on the foreign markets and at the price at which they must do so to effect sales. How long this construction bounty would have to be continued no man can say, but no

contract feature would be required and hence congress could stop or reduce it at any time. Of course, the construction bounty should only be paid for ships built for foreign trade, and such ships should never be permitted to engage in coastwise trade, because that trade is already amply protected and needs no construction bounty."

MR. C. B. ORCUTT'S FORCIBLE TALK.

Mr. C. B. Orcutt, president of the Newport News Ship Building & Dry Dock Co., addressed the commisison in a very lucid and convincing manner. Among other things Mr. Orcutt said:

"Having received an invitation from the secretary of the commission to be present at the New York hearings and to make known to the commission what in my judgment could and should be done by national legislation to increase the number of American ships and seamen, I have the honor to state that it will be necessary to remove the present serious handicap, under which owners of American vessels are laboring, putting them on a reasonable parity with vessel owners of other nations, before any substantial increase can be secured in the number of American vessels for service in the foreign trade. If the commission is not at the present time informed as to the nature and seriousness of the disadvantage under which American ship owners are laboring, it will no doubt be fully advised on this point during the progress of the hearings, by those most interested, the vessel owners themselves. I will simply remark in passing that some idea of the disadvantages accruing to American owners will be gained by comparison of relative costs of vessels built in this country and abroad. An ordinary freight carrying steamship termed a 'tramp' can be considered in England for about 50 per cent less money than in the United States. It is a well known fact that a vessel sailing under a foreign flag can be manned and victualled at a much lower cost than under the American flag.

"If the present situation is to be changed for the better, it will manifestly have to be done by national legislation in one form or another, the net result of which shall be to equalize, within reasonable bounds, the condition of competition under which American vessels must engage in the foreign trade. The most immediate and effectual method of securing the needed relief would seem to be through direct aid to vessels in the ocean carrying trade, such assistance to be wisely planned to further enlarge the ocean mail service, to promote commerce, increase the foreign trade of the United States, provide auxiliary cruisers, transports and seamen for government use in time of war. Couple with the foregoing a discrimination, where possible, in import duties on goods carried in American-built vessels sailing under the American flag, and we shall witness a revival in American shipping which will largely promote the political and commercial interests of this country.

"The basis of the English navigation act under which England grew to commercial ascendency upon the sea was the principle of reserving the carriage of English trade to English ships. It will not be possible to apply such a principle to our conditions at the present time without serious disarrangement of our ocean trade; it will, however, be well to consider that in 1789, the principle of the English navigation act was applied to our shipping in a modified form and in a manner which did not disarrange ocean carriage—by a system of discrimination in duties, aided by a system of tonnage taxation—ships of other nations were still allowed to carry our ocean commerce, but a discount in duties was allowed to American ships. The discount so allowed was not enough to provide for the immediate development of our shipping to a point where it was able to do all of the nation's sea carrying, it, however, promoted constant growth under this policy and in a period of thirty years secured a tonnage sufficient for the country's needs. From a political standpoint such a measure would have much to commend it as it could not be consistently objected to by either Democrats or Republicans.

"The trading ships of this country, our tramp steamers of the future, will have great carrying capacity and slow speed, and will be designed and constructed with a view to economical management. Such ships are the backbone of England's sea power, just as they will be our own. For obvious reasons these particular ships by reason of their construction and slow speed will not form a naval reserve of any considerable value; they are entirely unfitted for the carriage of mails, therefore are not in the line of postal or admiralty subsidy; however, these vessels are the real essence of our strength upon the sea and should be encouraged, the system of discrimination in duties heretofore referred to, would fit their needs in a measure at least. The nation's needs do not stop here.

"We need upon the seas the swiftest ships to carry our mail, and to form an auxiliary force in time of war. We need ships of every class in which to instruct seamen for our increasing navy. Other nations have this sea equipment, and unless we are willing to forego the accruing advantages, we must have it also. A discrimination in duties will not be sufficient; to gain our proper place upon the sea, we must imitate the example of other nations and provide a direct subsidy as well. By a wedding of both principles, that of discriminating in duties and direct subsidies, we shall, in my opinion, secure the best results. Each has its own field of usefulness and the formulation of a policy adapted from each would be likely to receive the support of both political parties."

COMPARATIVE COSTS OF CONSTRUCTION.

Mr. Lewis Nixon of the Crescent Ship Yard compared the building of ships in this country and in England. He said that in England, owing to the great number of ships built, it was possible to effect economies impossible in American ship yards. Mr. Nixon continued:

"In Great Britain, for example, tramp ships are built in yards where only tramps are built. Here on the contrary, a tramp ship will be built in the same yard as a battleship. This necessity of ours of building all kinds of ships in one yard is all wrong. I remember, for instance, a tug, a ferryboat, a yacht, a freighter, and a battleship on the ways in a ship yard. The ways were capable of holding vessels of the size of the Campania. It is needless to say that it is impossible to work a ship yard to the best advantage without a sacrifice of ecenomy, when vessels of such variable sizes are under construction in one yard. As illustrating what I am saying, let me call your attention to the splendid boats which have been constructed by our ship builders on the great lakes. I do not believe the foreigners can build the same kind of ships. The result on the great lakes is due to organization and the concentration on a single kind of vessel. One of our troubles is that we have not demand enough for ships and consequently have not been able to specialize. There is a difference of from 30 to 40 per cent in the building of ships in favor of foreigners. The wages of joiners, for instance, are double here what they are abroad, while the cost of materials in this country is 25 per cent in advance of those prevailing in England. It is difficult to make a comparison between English and American ship yards because the British yards turn ships out by the wholesale."

Mr. Nixon said that American ship builders were seriously handicapped owing to the aids to navigation made by foreign countries. It was brought out at yesterday's hearing that foreign nations are paying annually $26,000,000 in subsidies. In reply to a question by Senator Lodge, Mr. Nixon stated that he considered that the foreign subsidies had made an increased demand for ships, thereby effecting economies in the foreign yards. Mr. Nixon was questioned at length by Representative McDermott regarding the possibility of a commercial war in

case discriminating duties were imposed by the United States for the benefit of American shipping. Mr. Nixon said there was little to fear on that score. The witness said that the postal subsidy act of 1891 had "done an immense amount of good." In the estimation of Mr. Nixon, the act had encouraged swift ships under the American flag. He thought that an extension of the act of 1891 would result in the establishment of additional lines of fast mail steamers.

STATEMENT FROM ADMIRAL BOWLES.

President Francis T. Bowles of the Fore River Ship & Engine Co., Quincy, Mass., formerly chief constructor of the United States navy, submitted facts and figures relating to foreign and domestic ship building. Mr. Bowles said the average of wages paid in American ship yards was about 75 per cent greater than is the case abroad. In a further statement Mr. Bowles said wages in this country exceed those in England and Scotland anywhere from 30 to 40 per cent.

"I recall," Mr. Bowles said, "the respective bids made by an English and by an American firm of ship builders for the construction of a steamer of 7,000 gross tonnage. The English firm offered to build the vessel for $214,000, while the American competitor's bid was $275,000. However, this state of affairs should not always exist. In an investigation I conducted last year for the navy department I found American firms were building battleships and armored cruisers about as cheaply as similar vessels were being built in British yards. The reason for this is that our domestic firms pursue a 'cut-throat' policy and take government contracts which are not profitable."

President Bowles said he saw no occasion to be afraid of the subsidy idea. "Whatever is done," the former rear-admiral said, "must be for a definite and fixed period."

John Craig, president of the Craig Ship Building Co., Toledo, O., indorsed Admiral Bowles' remarks. Mr. Craig said he had just returned from a trip through English and Scotch ship yards. As showing the discouraging outlook for ship builders on the great lakes, he said that on July 1 next there would be only one vessel on the stocks.

SPEECH OF MR. W. G. SEWALL.

William G. Sewall, representing the firm of Arthur Sewell & Co., Bath, Me., which builds the largest sail cargo-carrying ships in the world, stated that his yard had been closed a year. He said:

"I represent Arthur Sewall & Co. of Bath, Me. The city of Bath has been a ship building center for 150 years, and I might say, has stood uninterruptedly at the head in the production of sail tonnage in the United States. Many of our citizens have been interested not only in the building, but sailing of square-rigged vessels for the foreign trade, and in 1854, there was built in this city fifty-nine full rigged ships. During the past two years we have built none. In fact, of late years, my firm alone is the survivor of this great industry. Our yard was established in 1823. We have built over 100 vessels, mostly for the foreign trade, and in years past, our ships have been in nearly every maritime port of importance in the world. At the present time, we are the managing owners of twelve vessels, all square-rigged with one exception, and varying in carrying capacity from 3,000 to 5,000 tons each.

"Ten years ago, we commenced the construction of steel ships, building the first steel sailing ship built in America. Today, our yard is closed. It has been closed now for over a year, and as much as we would like to open it, we can see no encouragement for doing so at present. We have held on hoping in vain for better times, and some years, building more from sentiment than from sound, business judgment. The limit has been reached. Every ship yard in the country has a similar tale to tell—some ruined and in receiver's hands—others closed, and the remainder running at a loss. And so it is with our foreign carrying trade, for the two go hand in hand. The condition is truly deplorable, but I feel, gentlemen, that our story so far as it relates to the necessity of some legislation being passed in behalf of American shipping, has already been told at the various hearings held at Washington during the session just closed. That there is need of legislation, I assume you take for granted, and the great question before you on which there are so many different opinions, is how to best meet and remedy the situation. I believe we are all somewhat doubtful as to the proper course to take. What we want is relief that will be liberal at the start, effective at once, and of sufficient duration so that capital and enterprise will not hesitate in doing their part.

"There have been a number of methods proposed. The free ship theory I discard; in fact, it is hard for me to conceive how anyone with true, American spirit can look with favor, or see any benefits coming from such a policy. At the best, it only meets the issue to a limited extent. We would still have the difference in maintainance, manning and operating to contend against. We would have no ship yards, and the incentive for American enterprise would be largely diminished. Discriminating duties would no doubt prove most effective, and I believe we are a nation strong enough and great enough to carry the issue through, if we determined to do so; but there would be many obstacles to meet, and many treaties to abrogate, some of which I understand would take from one to two years. The plan of increasing tonnage dues might prove desirable, but if foreign tonnage is to be shut out by this method, the increase would have to be considered, and as American shipping regained the trade the burden would fall on us, and the subsidy to compensate would necessarily have to be extremely large, which would no doubt be misconstrued by many and be objectionable.

"I am therefore of the opinion, notwithstanding the sentiment held by many against direct subsidies, some bill embodying this form of relief, giving a fixed rate on all vessels alike, based on capacity and mileage, and with a special subsidy for mail steamers, making it as simple and concise as possible, would be the least objectionable, the most speedy remedy, and therefore, the most satisfactory measure.

"It must be sufficient to meet not only the disadvantage we suffer in the construction and repairs of our vessels, as compared with our foreign rivals, but also meet the difference in the cost of manning and operating, as well as the advantage now derived from holding the trade, and all which that implies. The French government, besides paying a building bounty, gives a mileage subsidy of about 3.20 cents per ton per 100 miles sailed, which practically covers the operating expenses of the vessel. While I do not consider it necessary to pay such a subsidy as this, yet to be effective, with the conditions as now existing, it should be liberal, and in granting some form of mileage subsidy, we should bear in mind it is only giving shipping the protection which has long been granted many other industries of a far less national character and importance.

"The policy of our country is protection; we have subsidized our railroads; fostered our industries; spent money lavishly on our rivers and harbors, and you might say, solely for the benefit of foreign shipping so far as our foreign trade is concerned, and yet, we have done nothing to encourage our own merchant marine. The completed ship, one of the highest and grandest forms of manufactured production, reaching out to the various industries on which it draws, and giving employment to American labor throughout the country is not protected. This should be considered by those unfriendly to this form of relief, and they should also bear in mind the great advantage coming to our people in opening up trade in foreign countries through our own agencies. Why should we be content to simply raise our products and merely transport them to our sea coast, when we can deliver them to the markets of the world, saving not only the transportation, but receiving countless benefits besides in the opening up of

trade. The few millions spent to save this trade will be returned to us many times over. It would give us a merchant marine as an auxiliary to our navy, and ship building plants we could depend upon in time of war. We ask for relief on broad grounds, without regard to party lines, as citizens interested in the welfare of our country, desiring to develop and maintain our ship yards and secure the transportation of our products for our flag. We ask it for maritime defense, and for the supplying of seamen, to insure our property on the sea, and the protection of our coast. We merely want to be placed on terms of fair competition, and without reducing the standard of living for American labor. We cannot meet the disadvantages that now confront us without governmental aid.

"In closing, I want to say a word for sail tonnage. I, of course, realize this is an age largely dependent upon steam, and if we are to regain any considerable proportion of our lost foreign trade, we must do it by steam, but I believe there is still urgent need of the sailing ship, and any increase in these vessels, as may come from such encouragement as you can give, will prove of inestimable value to the country. They will always be needed for certain cargoes and certain voyages and upon this class of vessels we are dependent almost entirely for the proper training of our seamen. If we can make these vessels profitable so that capital will seek investment in them, then we shall have our officers and seamen, so essential to a merchant marine. They are cargo carriers, limited in number, yet deserving of your most careful consideration, and in coming to your conclusions, gentlemen, I trust you will be disposed to strongly recommend most liberal encouragement for both steam and sail, that will promptly restore our flag upon the seas and regain our foreign carrying trade."

BRIEF SPEECH OF MR. J. J. HILL.

Mr. J. J. Hill, president of the Great Northern railway, said:

"The first thing necessary is to create a desire in the people of this country to own ships. It is a purely commercial question. If there is a profit in it people will engage in it. If a loss, it is a question how long people will stick. I have been in the transportation business all my life. Our conditions on the high seas, as a nation, seem hard to meet. Why we are not able to do this on the high seas is not clear to me, and as far as I have investigated I believe that no amount of direct business will build it into a life worth living. What the country wants is a market. Outside of our agricultural products, cotton, grain, oil, there are very few things we can export, because cost of production is so high. We cannot sell them. If we could carry those products in our own bottoms it would be a source of great profit. They can build ships in England much cheaper than here. Citizens of other countries have owned ships for the last forty years to a greater extent than we. I have had experience in building two ships —the largest freight carriers in the world—and I don't want any more. I would rather undertake to build 1,000 miles of railway than two ships. It has taken four years, instead of two, through strikes and other delays. If we are going to buy a merchant marine out of the treasury of the country it won't last long. We must give people confidence to invest. We cannot comply with regulations placed on us and compete with ships of other nations competing for the Oriental trade. We have been forced out."

MARITIME ASSOCIATION COMMITTEE'S REPORT.

The board of directors of the Maritime Association of the Port of New York in June of last year appointed a committee to ascertain by what method ships built in American ship yards, officered and manned by American citizens, may most quickly and effectively secure the larger part of our foreign carrying. This committee consisted of A. A. Raven, chairman; Fielos S. Pendleton, Wallace Downey, Henry E. Nesmith and Ernest C. Bliss. The committee under date of May 21 recommended as follows:

1. The adoption of the discriminating duty policy, in what may be designated as the indirect trade, to wit: to collect extra or discriminating duties on the imports coming into the United States on foreign vessels from countries other than their own, through such amendment of section 22 of the existing tariff act as may be necessary to accomplish that purpose, 2. Such an amendment of the ocean mail service act of 1891 as will provide reasonable mail compensation for steamships of sufficient speed on regular lines to make it desirable to utilize them for the carriage of the mails, having in view their usefulness as auxiliary cruisers and for the common defense. We would suggest that this policy should be pursued only in such cases and upon such routes as would fail otherwise to secure the establishment of steamship lines under the policy of discriminating duties on imports and tonnage dues. In dealing with this question a number of complications are presented that the inapplicable to other industries, rendering a wise and practical solution of the problem difficult. These may be briefly enumerated as follows:

"1. The development and maintenance of an effective merchant shipping, through governmental assistance and regulation, has long been the especial care of practically all of the great powers, while no great interest has been so continuously neglected by the government of the United States during the past forty years as that of its merchant shipping.

"2. Some nations encourage the building of ships by direct payments from their national treasuries of bounties of a fixed sum per ton of hull and a fixed sum per horse power of machinery, the two, in the case of steamships, aggregating a very substantial portion of the total cost of such construction. Other nations make extremely liberal payments from their treasuries for the carriage of the mails to steamships of regular lines; still others pay bounties based on the distance sailed and the size of the vessel; others, again, have domestic regulations of a character to stimulate the construction and ownership of merchant shipping, through rebates on imported materials, low cost of transporting such materials over railroads controlled by the governments, low rates of transportation on exports from interior points to distant foreign points when the exports are carried in national vessels; and still other nations maintain a system of payments based upon the admiralty usefulness of vessels, besides maintaining elaborate national naval reserves, in which their shipmasters, officers and seamen are carried on the payrolls of the nation during the entire period of their active employment afloat.

"3. Reports of parliamentary and other committees that have studied this subject make it perfectly clear that other nations give this attention and pursue the different policies already outlined chiefly because of the military necessity for and the value of merchant ships and trained and experienced seamen, and incidentally because of the commercial advantages arising from such possession.

"4. These important considerations bearing upon this subject very naturally invest it with an importance far greater than the economic advantages arising from the possession of merchant ships and seamen. We feel sure that no one can make a careful and thoughtful study of this subject and fail to be impressed with the necessity, from a military and naval point of view—from the paramount point of view of national defense—of a large, prosperous and effective American mercantile marine. Nor can a study of the subject, together with a clear comprehension of the deplorable conditions of American shipping today, fail to impress the student with the dangers, both military and commercial, that threaten the United States because of its feeble and utterly inadequate merchant shipping.

"5. Approaching the subject with these considerations in mind, it must be obvious that the benefit to individuals actively

engaged in the ownership of vessels and in their construction and operation should only concern the nation to the extent of inducing it to make such provisions, in the enactment of law for the establishment of an American maritime policy, as to make the ownership, building and operation of the merchant ships attractive to our citizens, and it cannot be made attractive unless it is profitable. Such attraction and profit, however, are merely incidental to the strengthening of the national defenses and the promotion of the general welfare. If the legislation errs on the side of liberality the competition between our own people may be depended upon to quickly operate for the protection of the government, while if the legislation enacted is insufficient to make the venture into shipowning, shipbuilding and ship operation attractive and profitable to individuals, the danger continues to threaten the nation. Indeed, even if all of our people were profitably employed in more attractive industries the national defense and welfare require the earliest possible enactment of such legislation as will attract our people into shipowning, shipbuilding, and ship operation, upon a scale of sufficient magnitude to place the nation in possession of a large, powerful and profitable mercantile marine.

"6. National conditions over which our shipowners and shipbuilders have no control, and which they either individually or collectively are powerless to change, make the cost of building vessels in the United States much greater (probably at least 30 per cent.) than the cost of building vessels in other countries. The cost of manning and victualling these American-built vessels is also much greater (probably 30 per cent.) than the cost of manning and victualling foreign vessels. In addition, there are other expenses, in the management of vessels, which are greater in the United States than they are in other countries, such as taxes, repairs, outfit and equipment. Again, American investors are not satisfied with the small returns upon their investments that investors in other countries are. Most of these higher expenses are the outgrowth of conditions resulting from the policy of high protection that has obtained in the United States during practically the same period that American shipping engaged in the foreign trade has been declining. The cost of materials entering into the construction and outfitting of American vessels is necesarily higher because of the conditions that obtain in other industries that are highly prosperous under the protection afforded by the tariff—industries employing precisely the same materials that are employed in shipbuilding and outfitting. The wages of the workmen employed in our shipyards are upon the same high scale, due to the general standard of wages prevailing in similar industries that are great, powerful and profitable under tariff protection. While these conditions continue to exist it is futile to suggest that ships can be built in the United States as cheaply as they can be built abroad. If they could, they would be, and the fact that they are not built at all indicates that their cost renders them unprofitable in comparison with foreign vessels.

"7. If, therefore, other nations did none of the things that they so long have done and still do for the encouragement and maintenance of their merchant shipping, the differences in cost of construction, operation, etc., between American and foreign vessels would suffice to make it unprofitable and hence unattractive to Americans to either invest in or build ships in the United States for the foreign trade. But, when we add to these undeniable advantages that our foreign competitors possess over our own citizens, the advantages that they also possess through governmental assistance and regulation, then the reasons why American vessels carry but 9 per cent. of our total foreign commerce that is valued at nearly $2,500,000,000 annually, and the reasons why foreign vessels carry over 90 per cent. of this commerce, receiving therefore freight charges closely approximating $200,000,000 annually, are pretty well explained and set forth. And these are the conditions that congress must recognize and adequately meet through the adoption of effective legislation before the problem of establishing an American merchant marine in the foreign trade measurably equal to the needs of our foreign carrying has been solved.

OUTLINING THE POLICY OF DISCRIMINATING DUTIES.

At the inception of our government under the existing constitution in 1789, the rapid and prosperous development of our merchant shipping was provided for through the policy of discriminating import duties and tonnage dues. The act as first drawn provided for a reduction of the duties below the sum fixed in the tariff when such imports came in American vessels. So rapid was the growth of our shipping and so great the reduction in the duties caused thereby that in a short time it became necessary to so change the act as to exact a higher duty on imports in foreign vessels than the amount fixed in the tariff and as applicable to imports in American vessels. In a few years the great bulk of our foreign carrying was transferred from foreign to American vessels, the latter for years carrying an average of 90 per cent of our foreign commerce. In 1826 American ships carried 92.5 per cent. of our entire foreign commerce, a proportion never exceeded in the nation's history. Shortly thereafter (in 1828) congress provided for the suspension of the discriminatory policy (under which our shipping had, for the prolonged period of nearly forty years been so large, so powerful and so prosperous), whenever it was shown to the president's satisfaction that it had been abandoned by other nations. It was believed that protection was no longer necessary in order to enable American vessels to command our foreign carrying. Contemporaneously with the abandonment, by presidential proclamation, of the discriminatory policy, provision was inserted in our treaties and conventions of commerce and navigation, as from time to time they were exchanged with foreign governments, by which we bound ourselves not to readopt that policy. This explains why it is that these treaties and conventions must be changed or abrogated, as they provide for, before the discriminatory policy can be readopted. As the discriminatory policy was gradually abandoned the proportion of the imports and exports carried in American vessels has steadily declined, so that instead of American vessels carrying 92.5 per cent., as they did in 1826, they now carry but 9 per cent. So marked, indeed, has been the decline in our shipping in the foreign trade that it is today less, by 100,000 tons, than it was nearly a century ago, although the commerce to carry has increased twenty-fold.

For the encouragement of American steamships other than those operating under the ocean mail service act, for the encouragement of American sailing vessels, and for the extension of our export trade, we have recommended a return to the early American policy of discriminating import duties and tonnage dues, through an amendment of section 22 of the existing tariff act. The section in question still carries upon our statute books a remnant of the provisions of the act of 1789, by which the discriminatory policy was then applied to our maritime development. That it has not entirely disappeared from our statutes shows the tenacity with which American statesmen have adhered to the shadow of a law the substance of which, in the full tide of its original application, accomplished so much for the upbuilding and maintenance of our shipping in the foreign trade."

WHY DISCRIMINATE AGAINST SHIP YARD LABOR.

The committee outlines further the application of ths discriminatory duty and then pertinently says:

"Take the product of a British factory, and a British shipyard, we will say, with both of them side by side in the port

of Liverpool. The product of the factory, in order to compete with similar products in the United States, is compelled to bear the expense of freightage to the United States, and then in all probability meet a tariff duty of 40 per cent., which affords ample protection to the American producers of similar products. But the British ship, launched from the shipyard right alongside of the British factory, is able to earn the freight charges on bringing the product of the British factory to the United States, without being subject to any tax in the United States of any kind whatsoever, and, when in the United States, that British ship is permitted to compete on even terms with an American ship in the carriage of a cargo from the United States. The question arises, why is the product of the British factory required to bear such a heavy tax in the United States, and the product of the British shipyard permitted to bear no tax at all? Why is the labor in the American factory so deserving of protection against the competition of the labor in the British factory, and the labor in the American shipyard undeserving of any protection against the labor in the British shipyard? Does this not explain why it is that foreign shipping has increased and flourished in the foreign carrying trade of the United States? Does it not explain, in large degree, at least, the cause of the prosperity of our land industries that are protected against foreign competition, and which grow great and prosperous, as a consequence? And does not the lack of similar or equal protection for our ships in large part, if not wholly, explain the cause of their decline from 2,496,894 tons under register in 1861 to but 879,264 tons in 1903, during a time that the oceanborne foreign commerce of the United States has increased in value from $584,995,066 in 1861 to a value of $2,240,797,420 in 1903."

STRIKES AFFLICTING SHIPPING.

The accompanying clipping was taken from last Monday's issue of the New York Herald and typifies quite generally the widespread trouble with labor that seems to afflict shipping in

$250,000,000 TIED UP BY LAKE STRIKE

Fifty Ports Affected and the West Facing Great Commercial Disaster.

100,000 WORKMEN ARE OUT

Chicago Already Feeling the Effect of the Enforced Idleness of Wage Earners.

CIVIC FEDERATION AT WORK

Trying to Patch Up Peace Between Lake Carriers and Masters and Pilots' Association.

STRIKE THREATENS ALL COAST LINES

Freight on All Piers in New York To Be Tied Up Unless Demands Are Granted.

TO EXTEND TO BOSTON

Trouble Now Confined to New York, New Haven and Hartford and the Mallory Lines.

POLICE FORCE INCREASED

Men Firm After Last Night's Executive Meetings—Offers of Arbitration Are Declined.

all parts of the country. On the great lakes after having settled amicably with six other unions the seventh union has prevented the operation of vessels—and that a union where from the least trouble was to have been expected. Meanwhile all classes of labor engaged in the great business of lake traffic have been idle and the monetary loss is, of course, considerable.

On the coast the marine firemen and oilers on the steamship lines controlled by the New York, New Haven & Hartford railway, who quit work originally in sympathy with the freight handlers at the Fall River piers in New York, changed their attitude into a demand for an increase in wages and declared that the demand should extend to a coastwise steamship lines. Later the strike extended to the Mallory Line. The strike of the New Haven Line started because the company refused to discharge a foreman of freight handlers who had been blacklisted by the Freight Handlers' union which was organized last March. Then the marine firemen joined them in a sympathy strike and later resolved to take advantage of the opportunity to ask for an increase in wages. Violence has been resorted to; freight intended for shipment has been dumped out of wagons by the strikers; the police have been called to protect the company's property, and all because the company would not discharge one man who probably was a faithful servant. What is the country coming to?

TONNAGE AT PRINCIPAL PORTS OF THE WORLD.

The following statement, compiled by the Bureau of Commerce and Labor, may be accepted as showing the tonnage (coastwise trade not included) entered at the principal ports of the world—ports having a tonnage of over 1,000,000 tons—during the year 1902, with the exception of the United States ports, the figures of which are for the fiscal year ended June 30, 1903. The figures for the United States and Great Britain are taken from the official publications of both countries, while the greater number of the remainder are taken from the annual reports of the United States consuls for 1903, but covering tonnage figures for 1902:

Rating	Port	Tons entered	Rating	Port	Tons entered
1	London	10,179,023	32	Fiume	1,954,541
2	New York	9,053,906	33	Amsterdam	1,887,917
3	Hamburg	8,689,000	34	Durban	1,826,526
4	Antwerp	8,425,127	35	Rio de Janeiro	1,801,880
5	Hong Kong*	8,253,591	36	Venice	1,779,167
6	Liverpool	6,843,200	37	Dunkirk	1,723,722
7	Rotterdam	6,546,473	38	Southampton	1,689,525
8	Marseilles	6,191,839	39	Glasgow	1,618,525
9	Genoa	5,596,012	40	Gothenburg	1,573,901
10	Shanghai	4,726,411	41	New Orleans	1,561,898
11	Cardiff	4,688,088	42	Montreal	1,539,404
12	Cape Town	4,245,602	43	Odessa	1,533,134
13	Tyne ports†	3,615,046	44	Baltimore	1,416,529
14	Lisbon	3,612,051	45	Valparaiso	1,386,884
15	Buenos Ayres	3,303,843	46	Venice	1,317,817
16	Copenhagen	3,111,412	47	Cronstadt	1,300,229
17	Habana	3,101,115	48	Vera Cruz	1,268,836
18	Algiers	3,035,131	49	Santiago de Cuba	1,242,950
19	Havre	3,016,591			
20	Bremen	2,984,410	50	Calcutta	1,212,622
21	Boston	2,978,913	51	Naples	1,211,922
22	Melbourne	2,827,949	52	Puget Sound	1,187,768
23	Sydney	2,706,561	53	Bombay	1,164,657
24	Alexandria	2,561,252	54	Rouen	1,099,318
25	Hull	2,514,663	55	Riga	1,066,026
26	Trieste	2,499,528	56	Savona	1,037,806
27	Barcelona	2,436,257	57	Leghorn	1,030,341
28	Yokohama	2,030,218	58	San Francisco	1,016,284
29	Bordeaux	2,022,103	59	Bordeaux	1,009,240
30	Philadelphia	1,993,422	60	Tampico	1,009,001
31	Nagasaki	1,974,700			

*Chinese junks not included. †Newcastle and North and South Shields.

The tug Reliance of the Midland Towing & Wrecking Co.'s fleet, is being thoroughly overhauled in Midland. This vessel was burned last fall.

RACING MOTOR BOAT STANDRD.

During the spring of 1903 the Standard Motor Construction Co., 172-180 Whiton street, Jersey City, N. J., desired competitive bids on a 60-ft. hull for a high-speed launch in which to install one of its new 110 H. P. gasoline motors and test its capabilities. A number of designers were asked to submit plans for the proposed boat, which was to fulfill the following requirements:

1. That the hull should be of extreme lightness without sacrificing the strength consistent with the estimated power of the engine.

2. That the hull should be made of such form as to obtain the greatest possible speed on the given length, and be perfectly able and seaworthy in the ordinary run of weather about New York harbor, lower bay, and sound.

After consideration of all the plans submitted, the contract was awarded to the Marine Construction & Dry Dock Co., who designed and built the boat at its works, Mariner's Harbor, Staten Island. The dimensions of the launch are: Length over all, 60 ft.; length on load waterline, 58 ft.; extreme beam, 7 ft. 6 in.

A departure was made from the usual method of construction, and the novel and scientific scheme adopted, for which a patent has been applied, afforded great saving of weight in every detail. The planking is of single thickness, Honduras mahogany, finished to 3-16 in. The fore and aft plank edges are also on continuous longitudinals of Oregon pine and fastened to them with brass screws closely spaced and let in flange. A system of double framing is used. The longitudinals are notched for the outer frame, and the inner frame, longitudinal, and outer frame are through riveted, making a very light but substantial arrangement. The inner frame is in one length and forms the lower member of the deck beam, the outer member running from side to side only. The longitudinal strength of the boat is obtained from two truss girders running from end to end in the wings and consisting of upper and lower continuous longitudinals, wooden compression struts, and galvanized wire diagonals set us very tight. These girders were designed to take off and hogging or sagging strains which might occur under the most extreme conditions. Care was taken to have the weight of the engine well distributed fore and aft, and this was effected by means of deep floors under the engine bearings, these floors resting on the longitudinals and lower members to the girders.

Special mention should be made of the engine which has many novel features. The system of forged columns and diagonal bracing gives a general appearance of similarity to a marine engine; it is of the four-cycle type with six cylinders, each 8 in. diameter and 10-in. stroke. The most interesting feature is the ingenious method of manipulating the engine by means of compressed air, and thus doing away with the usual reversing clutch. A pump is attached to the after end of the shaft and compresses air into a reservoir to the pressure of 150 pounds. In addition to the regular set of inlet and exhaust valves fitted on each cylinder for controlling the gas, on two of the cylinders a second set of valves is employed for the compressed air. Each set of valves is operated by a cam shaft, and each shaft has two sets of cams, one for going ahead and the other for reversing. The operations of starting, stopping, and reversing are controlled by means of horizontal levers worked in a notched quadrant similar to steam-engine brackets.

The Standard developed great speed on its numerous trials, and was successfully raced during the summer against many of the fastest yachts and steamers in the vicinity of New York. The most remarkable of its performances was the easy defeat of the steamer Monmouth in an informal race from Atlantic Highlands to the Battery, most of the trip being accomplished in a moderate seaway, which did not seem in any way to affect the speed of the launch. In this and other trials in rough and broken water the boat proved dry and seaworthy, with easy motions, no vibrations, twisting or evidences of any straining. The highest speed developed by the Standard was about 23 miles but this was with the experimental propellers, which did not give satisfactory results. It is expected that with a suitable wheel the speed will be considerably better next season.

SUNKEN BATTLESHIP HATSUSE.

The Japanese battleship Hatsuse, which was sunk off Port Arthur, was of 15,000 tons displacement, and of the latest model. She was only completed in 1900, was built in England, was 400 ft. long, had 76½ ft. beam, drew 27 ft. of water, had 16,300 H. P., and was fitted with water tube boilers. She had a belt from 4 to 9 in. thick of Harveyized steel, her protected deck was from 2½ to 4 in. thick, above the belt her side armor was 6 in. thick, of Harveyized steel; her bulkheads were protected by 12 in. of armor, there were 14 in. of Harveyized steel armor over her heavy gun positions, and her secondary battery guns were protected by 6 in. of Harveyized steel.

Her armament consisted of four 12-in. guns, fourteen 16-in. guns, twenty 12-pounders, eight 3-pounders, and four 2½-pounders. She had four torpedo tubes, her estimated speed was 19.11 knots, she carried 1,100 tons of coal, and her crew numbered 741 men. The Yoshino, which was also sunk, was a cruiser of 4,180 tons displacement and 15,000 H. P. She was built in England, was launched in 1892, was 350 ft. long, had 46½ ft. beam, and her draught was 17 ft.

The armament of the Yoshino consisted of four 6-in. guns, eight 4.7-in. guns, and twenty-three 3-pounders. She had five torpedo tubes, her armored deck was 4½ in. thick, and her gun positions were protected by shields 4½ in. in thickness.

The cruiser's speed was estimated to be 23 knots, her coal capacity was 1,000 tons, and her crew numbered 300 men.

IMPROVEMENTS TO THE EASTLAND.

The twin-screw steamer Eastland, built last year by Jenks Ship Building Co., of Port Huron, Mich., for the Michigan Steamship Co., of South Haven, has been at Port Huron all winter having Ellis & Eave's induced draft installed, in order to enable her to make steam easier and make the run to South Haven from Chicago in less than four hours. It is confidently expected that she will now make considerably over 20 miles an hour speed. The McCreery, of Toledo, O., system of Ventilation was also installed complete in every part of the vessel and as the elder Mr. McCreery, inventor of the system, had all his own way and all the room he wanted, he now declares her the best ventilated ship on the Great Lakes. Mr. W. J. Wood, naval architect, made a test of the McCreery apparatus at South Haven this week in the presence of Capt. Doritz, and Chief Engineer Wm. P. Eales of the boat and he says there was obtained from it the best distribution of cold, clean, dry air he ever saw. The dining room, lunch room and bar spaces have been greatly enlarged and other improvements made. Mr. Wm. H. Cochrane, the general passenger agent, has already booked excursions by the score for this season, among others the Shriners on June 25 and later on the Chicago mail men, Knight Templars and many other affiliation and orders.

The tug Harvey Neelon, belonging to W. W. Carter, Fesserton, is being rebuilt on the ways of the Georgian Bay Engineering Works, Midland. Her engine will be compounded.

LAUNCH OF A PETROLEUM STEAMER.

Sir W. G. Armstrong, Whitworth & Co., Ltd., launched from their Walker ship yard recently a large petroleum steamer for the Burmah Oil Co. The vessel is 321 ft. over all, and has a depth moulded of 28 ft. 8 in. She is capable of carrying a deadweight of 4,500 tons on a moderate draught of water. The vessel has a poop, bridge, and topgallant forecastle, and will be rigged as a three-masted schooner. The machinery is placed at the after end of the vessel. The captain and officers' accommodation will be in the bridge amidships, the engineers' in the after end of the poop and the sailors' and firemen's quarters in the forecastle. On leaving the ways the vessel was gracefully named Beme by Miss Cargill, daughter of Mr. J. T. Cargill, one of the directors of the company. Immediately after the launch the vessel yas taken to the works of the Wellsend Slipway & Engineering Co., where she will be fitted with triple expansion engine having cylinders 22 in., 37 in. and 61 in., with 42 in. stroke, steam being supplied by two boilers 14 ft. diameter by 11 ft. 6 in. long, working at 180 lbs. pressure, and capable of driving the vessel when laden at a speed of 10 knots per hour. Col. Swam said that the Beme was a steamer which had been built for the Burmah Oil Co., and would be used in their trade in the east in carrying oil from Burmah to the various eastern ports. At the present time great prominence had been given to oil burning for steamers and it would more and more become a competitor with coal for war vessels. the great advantage being that it did not require any trimming, there was no ash to get rid of. and the oil simply ran into the bunkers; no matter how contracted or inconvenient it might be, it would find its way to its proper place. The Burmah Oil Co. had got quite an exceptional position as being the owners of the only British oil field.

Mr. J. T. Cargill, in replying to the toast, said it was absolutely certain that the vessel, having been built by the firm of Sir W. G. Armstrong, Whitworth & Co. would be a success. She was the fourth vessel they had built for them, the other three vessels having given every possible satisfaction, and he had no doubt that the Beme would be equally successful. Alluding to the question of oil burning as touching the admiralty, he might say that the directors of the Burmah Oil Co. recognized very deeply the great importance of that subject, and it was receiving at the present moment the greatest consideration, and they had every hope that in time they would be able to supply the admiralty with what they required. They were straining every nerve in that direction. They were devoting their energies to make the oil fuel suitable, and he had no hesitation in saying that in time they would overcome all difficulties.

NATIONAL INTEREST IN SHIPPING

Editor Marine Review: In your editorial for the 12th I note this remark: "It has even been represented that a United States senator, distinguished among those who have advocated the upbuilding of the American merchant marine through favoring legislation, has declared that he would support no measure which permitted the great lakes to share in its operations." While I cannot take stock in this story, I can see that it might possibly be true—if the "favoring legislation" was to be "subsidy." There is something about this alleged "remedy" that dwarfs the minds of all who dote upon it. To begin with, the patriotic interest in the restoration of our foreign-trade marine is national, not private. While one may wish well to every legitimate private interest, scarce any one would turn his hand over for private interest alone, much less spend years, as I have done, to cause the upbuilding of our shipping power. But note you, it is the idea of private benefit that runs all through the different subsidizing schemes. Not one of these would have been entertained by the really great minds that planned for our original marine, even if they had had easy recourse to mints of money. These patriots had in view the national interest and they chose a specific mode of securing and developing it—by "navigation laws." Laws that favored no class of owners or vessels; neither large nor small; built on lakes, sounds, rivers, bays or gulfs; of iron, wood or birch bark. Let me give you some experience.

When I was commissioner of navigation and the hearings were on for the Farquhar shipping or bounty bill, I was called before the committee. I read a paper giving my views of the subject at that time. One of the first questions put was, as to the *size* of vessels that should receive bounty? I answered "all sizes." But the disposition was to exclude the smaller sizes. I said if we did so, it was simply inviting foreign competition to kill off the small fry, which was impolitic as well as unjust. Then, the question was on vessels of all sizes engaged in certain trades—"would I favor giving the bounty to ships in the exportation of ice?" Yes, no matter about the kind of cargo; if our object was protection and preservation of our shipping we must include *all* vessels and cargoes. By arrangement, I drew up the bill. When in committee of the whole up pops a very prominent legislator from a lake state, all of whose vessels are absolutely protected from foreign competition, and moves an amendment that no vessels below 1,000 tons receive any of the bounty! And this amendment carried. I thought it so unjust and impolitic that the bill would deserve to fail. It did fail at a later stage; but, in my opinion, chiefly because a rabid discussion of the famous "force bill," for several days previously, made the Democrats so mad that not more than two of them would vote for it; while the principle of the measure did not commend itself, to several strong Republicans, as consistent with the true cause of our marine decadence. This was not the lack of bounty, but of the proper protection, which had originally built up the interest.

It will be noted that when the original Hanna-Payne bill was put forth, it did not limit the amount that might be called for from the Treasury, if success followed its operation; but as soon as this fact was pointed out and that, also, the amount might be very large, immediately another bill was substituted, fixing the limit at nine millions. This was tantamount to partial, not full protection. The same people would complain loudly against a tariff protection so low as not to protect, but they felt differently about the partial or non-protection of shipping. It is, therefore, plain to experience that justice to our shipping as a whole, and as a national interest, need never to be expected from a remedy capable of prostitution to private interest, either in the bill when passed, or afterward when amendments may get in their work.

There is nothing like legislating on sound principles, no matter what interest may be involved. In these hustling days nothing can be proposed for the public good, but there are the selfish grasping few ready to jump in and help, so as to be where they can direct winnings into the chute leading into their private purse. Where these people see nothing in any cause for themselves, they give it a wide berth. When certain of them drop the shipping agitation, the country may come by its rights.

Denver, May 24. WILLIAM W. BATES.

In discussing the attitude of the marine engineers towards the present deadlock between the Lake Carriers' Association and the Masters' & Pilots' Association, Mr. Evan I. Jenkins, vice-president of the marine engineers says that they will abide by their contract with the Lake Carriers, no matter what the outcome may be. The engineers are employed upon a monthly basis, and, of course, are losers by the present controversy; but Mr. Jenkins maintains that a contract once entered into should be observed to the letter.

TRANSPORTATION OF GRAIN THROUGH CANADA.

One of the great questions that is occupying the attention of the Dominion government today is the transportation problem. This in so far as it relates to human beings and ordinary freight has been heretofore done chiefly by the great transcontinental line, the Canadian Pacific railway, but the Canada Northern is rapidly pushing its system westward from Lake Superior, and a bill is now before parliament whereby another transcontinental line—the Grand Trunk Pacific—will be heavily subsidized, part indeed being constructed as a government road, to run another line of tracks from the Atlantic to the Pacific. This is advocated not only as a valuable asset for the future, in view of the throngs that are pouring almost daily into the great North West, but to relieve the congested traffic of the C. P. R. and Canada Northern and enable the grain to be conveyed to its terminus in the far east without the present vexatious delays.

Railroad facilities are thus assured by the three roads, but a difficulty arises when a great proportion of the hundred million bushels of grain produced in Western Canada comes to Fort Arthur. The water route as the cheaper must be chosen. Hence the problem comes: How may the grain stored at Fort Arthur be brought down the lakes to the ocean port most expeditiously and also by an all-Canadian route?

Three years ago Hon. J. Israel Tarte, then a member of the Dominion government, took a great deal of interest in the question, and more than any one else, certainly at that time, drew the attention of the people to the possibilities of their great natural water route to the ocean.

The government finally appointed a transportation commission to deal broadly with the question and, after taking evidence at various points in Canada, to make a report on which it could act. The members of this commission are: Mr. George Bertram of Toronto (chairman), Mr. Robert Reford of Montreal and Mr. Frey, Quebec. These met for organization in St. Jonn, N. B., on Jan. 7 of this year and at once began negotiations in the maritime provinces. One of the subjects which the commission has to report upon is that of grain transportation.

The Welland canal is of course the great artificial waterway utilized in the transportation of the grain. Two others have been proposed, the Georgian bay and the Trent Valley canals. The former would be a ship canal from Georgian bay, along the Severn and Lake Simcoe and thence to Toronto. This proposal has not yet been taken seriously. The other, the Trent valley canal scheme, has made more headway and succeeding governments have, under pressure, voted and expended large sums for its construction. This too would begin at a point on Georgian bay but take at first a more easterly course, making use of the upper waters of the Ottawa, the chain of lakes in the Midland district of Ontario and the river Trent, and have its outlet at Trenton or Brighton, whence the barges could go through the Murray canal into the Bay of Quinte and have a comparatively sheltered course to the eastern end of the lake. But as yet neither of the "extremities" has been constructed and its practical benefit is still far from being demonstrated.

Canadians are turning to the Welland canal as their "hope of safety." At one time the tolls on this canal were 20 cents a ton. This was decreased to two cents and last year taken off altogether. The result was seen in an increased amount of grain by the all-Canadian waterway to Montreal. But even as it is Buffalo gets considerably more than 50 per cent of the Canadian grain shipped from Fort William. The only way to remedy (from the Canadian point of view) this state of affairs is to make the cost of transporting grain from the west via Montreal cheaper than via Buffalo.

A short time ago the transportation commission met in this city and representatives came before them from the Montreal Transportation Co., which does almost all the grain transportation business at this point; from Jas. Richardson & Sons, grain exporters; the Calvin Rafting Co., and also Capt. Donnelly, marine inspector. These urged on the government the advisability of enlarging the waterways so as to permit of a vessel of 225,000 bushels capacity bringing grain from Fort William to the end of Lake Ontario without breaking bulk. To get the full benefit of such enlargement it was proposed, not to deepen the present Welland canal, but to build an enlarged one. At present the canal is 30 miles in length, has twenty-five locks and takes eighteen hours to pass through. The new canal would follow the course of the old for 15 miles by the "Long Level" to Allenburg, near Thorold. There it would take a new course along the valley of the Twelve Mile Creek for 11½ miles, reducing the distance 3½ miles. But more important than this, if eight locks only were used, each 500 ft. long, the passage could be made in from eight to ten hours, and a deepening to 21 ft. would allow of the passage of the largest of the upper lake steamers, whereas at present no vessels with more than a 90,000 bu. capacity can get through.

When this larger vessel reached Kingston or Prescott the grain would be transferred to 60,000 bu. barges and taken to Montreal where it would be placed in ocean vessels. At present the volume of business scarcely warrants more than 20,000 to 40,000 bu. barges being used, and indeed until very recently it would have been impossible for the larger one to pass down, but the improvements have remedied this and, as a matter of fact, the Montreal Transportation Co. have sent down such barges.

Wherein, it may be asked, would lie the advantage of shipment by the larger lake steamers and river barges? There would be a material reduction in the cost per bushel. The following is an estimate made by Mr. H. W. Richardson of Jas. Richardson & Sons of Kingston and Winnipeg, of the rates from Fort William to Montreal on the basis of a 21-ft. Welland canal with only eight locks, a 225,000 bu. lake vessel and a 60,000 bu. river barge to carry the grain from Kingston to Montreal:

	Per bu.
Fort William to Port Colborne	1.5
Port Colborne to Kingston	.5
Kingston to f. o. b. ocean steamer Montreal	1.375
Making a total of	3.375

The cost at present is:

Fort William to Kingston	3.5
Kingston to Montreal	1.625
A total of	5.125

The saving would be 1¾ cents a bushel and some estimates make it over two cents. The figures as given are regarded as average ones.

The ½c per bushel rate from Port Colborne to Kingston may look too small but a vessel can make the return journey in two days (with an improved Welland) and $1,125 thus earned would leave a good profit.

Another factor must be noted in advocating that the large upper lake vessels continue their course to Lake Ontario ports rather than discharge at Buffalo. Hard coal on Lake Ontario is worth from 40c to 50c less per ton than on Lake Erie owing to the closer proximity to the Pennsylvania coal mines. This in itself would make coal as return freight from Lake Ontario much more valuable than from Lake Erie.

Now, as to the river rates.

The rates from Kingston to Montreal by larger barges and by the smaller were given as 1⅜c and 1⅝c respectively. A careful estimate made by Capt. Thos. Donnolly and forwarded to the transportation commission will show that the difference

between the two is not exaggerated. Capt. Donnolly's estimate is made on a 20,000 bu. barge as compared with a 65,000 bu. The initial costs he places at $12,000 and $40,000 (both being of steel). The expenses for seven months (May 1 to Nov. 30), 31 trips, he places at $7,909 and $18,796.75 respectively (allowing for depreciation, interest and profit, etc.); making the cost per bushel 1 9-10 cents and 1⅜cents respectively, a difference of over ½ cent a bushel.

DETAILED COST OF FREIGHTING GRAIN ON RIVER ST. LAWRENCE.

	In 20,000 bu. barges	In 65,000 bu. barges
Cost of barge (steel)	$12,000 00	$40,000 00
Expenses for 7 months (1st May to 30th Nov.) 31 trips—		
Wages and provisions, 7 months, at $120 per month	840 00	1,470 00
General expenses, customs, etc	75 00	125 00
Lines and general outfit (to keep up)	150 00	200 00
Elevating at Montreal, say 420,000 bu. at ¼c	1,050 00	.....
Elevating at Montreal, say 1,365,000	.....	.....
Shoveling at Montreal, 420,000 bu. at ⅙c	525 00	.....
Shoveling at Montreal, 1,365,000 bu	.....	1,706 25
River towage for 21 trips at $125 per trip	2,625 00	.....
River towage for 21 trips at $225 per trip	.....	4,725 00
6 towages in canals, at $4 each, (21 trips)	504 00	.....
6 towages in canals, at $8 each, (21 trips)	.....	1,008 00
Depreciation and repairs, say 2%	240 00	800 00
Short grain and incidentals	200 00	350 00
Share of management and office expenses	500 00	750 00
Interest and profit at, say 10% on cost barge (barge not insured)	1,200 00	4,000 00
	$7,909 00	$18,796 75
Amount carried in season, 420,000 bu		$1,365,000
Cost of carrying, including profit as above	1.88 or 19-10c per bu.	1,377 or 13-8c per bu.

The great reduction of the charges, Fort William to Montreal, would also place Canada in a better position to compete with Buffalo. At present the rates (average) from Fort William to New York, via Buffalo, are:

	Per bu.
Fort William to Buffalo	1.5
Buffalo to New York	3.5
F. O. B. charges New York	1.125
	6.125

The present rates from Fort William to Montreal (including F. O. B. charges) as already given are 5.125 per bushel. This would seem to show an advantage of one cent a bushel for the Canadian as compared with the Buffalo New York route, but it is compensated for by the fact that hitherto ocean freights to Europe have generally been and from geographical and other conditions will probably continue to be lower from New York than from Montreal.

But this is not all. The vote last year of $101,000,000 for a new Erie canal makes it certain that the present rate from Buffalo to New York, 3.5c per bushel, will be decreased and the Canadian route once more be more expensive than the other. Hence if conditions and rates on the Canadian route remained the same, Canada could not hope to retain long even her present share of the transportation of grain. But, at the figure given above as possible under the proposed changes, namely 3.375 per bushel to Montreal, even with the enlarged Erie canal, the Buffalo New York route could not successfully compete.

As to distance, the Canadian route again has the advantage:

	Miles.
From Fort William to Buffalo	900
From Buffalo to New York	450
	1,350
From Fort William to Kingston	1,100
From Kingston to Montreal	170
	1,270

The proposed enlargement of the Welland was strongly endorsed by the Dominion Marine Association at its late annual meeting in Ottawa and the government memorialized to carry out the project.

Besides in the maritime provinces the transportation commission has had sessions so far at only three places in Ontario, Kingston, Toronto and Peterboro. Kingston heartily endorsed or rather promulgated this policy of an enlarged Welland; Toronto looked favorably on it, while Peterboro gave its attention chiefly to the Trent Valley canal as being contiguous to that city. The Montreal board of trade, dealing with the question as endorsed by the Dominion Maritime association, took a rather hostile attitude, expressing the fear that if the facilities via the Welland canal were increased a large share of the grain would go to Oswego and thence to New York by way of the Erie canal. This could hardly be. The rates to Kingston and Oswego are identical, hence it is left to compare the rest of the journey in each case. From Kingston to Montreal (F. O. B.) would be 1⅜c; the F. O. B. charges alone at New York are 1⅛c; thus to equalize the cost the grain must be carried from Oswego to New York at 1⅜c — 1⅛c = ¼c—an impossibility.

It has also been proposed as a less expensive measure to improve Port Colborne at the Lake Erie end of the Welland so as to allow of transhipment there from the large upper lake vessels into smaller ones which would be able to go right to Montreal. The objections to this are: (1) It fails to secure the larger haul for the upper lake vessels; (2) the vessels for the voyage to Montreal must pass through Lake Ontario and hence must be heavier, more expensive and have less capacity than the river barges; (3) If a steam barge is used to tow lake barges from Port Colborne to the eastern end of Lake Ontario, a river tug must be used from there to Montreal (a considerable expense) as the insurance regulations do not permit a steam barge to handle a tow on the river; and (4) the east end of Lake Ontario as the storing place enables an ocean vessel to obtain a cargo in half the time required to secure it from Port Colborne.

Those who are advocating the enlarged Welland canal are quite hopeful of the government taking action and believe with this done that a new era will dawn for Canadian lake shipping.

An article in the New York Times is to the effect that Mr. Charles Schwab, former president of the United States Steel Corporation, intends to give his personal attention to the affairs of the United States Ship Building Co. and to place the corporation upon a first-class basis.

Mr. Edwin Bond, president of the Erie Canal Advisory Commission says that it is planned to begin work upon the enlargement of the canal about July 1. The work will be started at Cohoes, Fort Edward, Savana and Rochester.

TRADE NOTES.

The Joseph Dixon Crucible Co., Jersey City, N. J., has just issued a very pretty little booklet devoted to graphite afloat and afield, which is intended to be of particular interest to yachtmen and sportsmen. It shows the convenient forms in which graphite is put up and is illustrated throughout with very clever wash drawings.

Owing to the increase in the yacht and marine plumbing business, Alfred B. Sands & Co. have been compelled to secure larger quarters and are now to be found at No. 242 Water street, New York. They represent that their stock is larger and more varied than ever before. The folder with which they announce the removal is very nicely got up indeed, representing an old-fashioned latch string, of which device the string, at any rate, is the real article.

The Kingsford Foundry & Machine Works of Oswego, N. Y., have recently shipped one of their 10-in. special wrecking pumps to the Hackett Wrecking Co., Amherstburg, Ont. This pump will handle large coal and will enable the Hackett company to remove cargoes of this character. The tug Seawing, owned by A. Booth & Co., is having the new Kingsford boiler installed at Cleveland and the company is also to install a boiler in the tug Valiant belonging to this same company at Erie.

The B. F. Sturtevant Co., Boston, Mass., evolved a new hand blower, known as Style B. These hand blowers have been extensively introduced in connection with new forges of all kinds and have likewise been applied to old style block and iron forges as simple economical substitutes for the bellows. The blower is adjustable on the shaft and its outlet may thus be set to discharge in any direction and readily connected to the forge tuyere by means of galvanized iron piping.

John F. Allen, 370-372 Gerard avenue, New York City, manufacturers of all kinds of riveting machines, has put upon the market a new riveter especially designed for light riveting. The American Car & Foundry Co. recently obtained a contract for 1,000 cars made of pressed steel for use in the New York subway and after examining other tools in the market, placed an order for four of these new machines to be delivered at Berwick, Pa. All the rivets ¼-in. and ⅜-in. are driven cold and this machine will do them all, including those on seams, seats and corners. Mr. Allen reports quite a demand for this new riveter on such work as house range tanks, etc., where small rivets are required. The machine will drive, however, up to ⅝-in. hot rivets, and as it is only 9 in. over all can be operated inside of very small tubes.

The Marine Appliance Co., Boston, Mass., is increasing their facilities in order to comply with the constantly increasing demand for their goods which have been used on all kinds of floating craft. Their well-known Imperial yacht closet has become the favorite for power launches as well as sailing craft, while the Knockabout closet has been the favorite for small sailing yachts on account of requiring the least vertical space and having a reliable automatic shut-off valve on the discharge, independent of the check valves, so that when placed under the transoms below the water-line, is safe. The special sea cocks, with clear throughway (made only by this company) are used universally by the navy as well as on yachts, and for all marine purposes. This company is now manufacturing parts of their goods in Canada so that they may be obtained there free of duty.

From time immemorial the old fashioned sheet iron ladle has been used for paying the seams of vessel's decks. The pitch or marine glue, whichever was used, was heated on shore in large caldrons over a hot fire, the heated liquid carried on board the vessel and run into the seams. This was of course a most primitive method and it is astonishing that in this age of improvements the old system still prevails. When marine glue was used it was often overheated or allowed to boil a long time, either of which injures the material. It was frequently carried long distances from the place of melting to the vessel and had cooled to such an extent that it was not fit to run into the seam, consequently the seam was left hollow and unsound. In using the old fashioned sheet iron ladle it was frequently drawn on the seams and a quantity of atmosphere enveloped that had not time to escape before the glue became set; this in hot weather caused air bubbles and unsound seams. Marine glue should be run into the seam immediately when melted and the nose of the ladle should be held at least an inch above the deck. To obtain this result and to prevent overheating the glue Mr. Arthur Jeffery of the firm of Alfred Jeffery & Co., the manufacturers of Jeffery's Patent Marine Glue, after many months of experiment has produced a combined melting patent and paying ladle with which any workman, without any previous experience, can, by carefully following the directions, apply the glue as well as an old time calker and run into the seams without fear of injuring it. L. W. Ferdinand & Co., 152 Federal St., Boston, are the agents.

SHIP WORK AT HEAD OF THE LAKES.

Duluth, May 25.—At the works of the American Steel Barge Co. about 150 men are employed, most of them in the machine and shape shops. Elevator boots and bins for the Canadian Northern railway house at Port Arthur are being erected here, and a little work is under way on mechanical stokers. Some slight vessel repair work also occupies attention.

PERSONAL.

Ray G. McDonald, attorney at law and proctor in admiralty, has removed his offices to suite 630, First National Bank building, Dearborn and Monroe streets, Chicago, where he will continue the practice of law and admiralty.

Maj. Theo. A. Bingham, United States engineer with headquarters at Buffalo, was more seriously injured by the falling of a derrick in the harbor of Buffalo some weeks ago than was at first supposed. It became necessary last week to amputate the leg just above the knee and for a time Maj. Bingham's life was despaired of.

STAGES OE WATER.

The gage records of the United States lake survey show the following mean stages of water above mean sea level, for April, 1904:

	Stages during April. Feet.	Higher than during same month last year Feet.	Lower than during same month last year Feet.	Higher than during April, 1895. Feet.	Lower than during April, 1895. Feet
Lake Superior	602.19	0.12	....	0.18	....
Lake Michigan	580.59	0.26	....	0.62	....
Lake Huron	580.61	0.34	....	0.66	....
Lake Erie	572.97	....	0.08	1.71	....
Lake Ontario	246.95	0.30	....	2.21	....

Present fall Lake Huron to Lake Erie, 0.42 ft. more than year ago.

The five-masted schooner building at Brook's ship yard, East Boston, for the American Marine Transportation Co., was sold by the receivers of that concern to William F. Palmer for $32,000. About $100,000 had been expended on her. When launched she will be the largest five-master afloat. She is 300 ft. long, 70 ft. beam and 30 ft. deep.

Elias Cohen, who died last week at his home, No. 109 Beech street, Cleveland, was in his early life engaged in lake traffic. He sailed the Lady Franklin which was one of the first freighters to engage in the cross-lake trade between Cleveland and Canada.